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MANAGEMENT OF PARTNERSHIP NETWORKS IN ELECTRICITY DISTRIBUTION BUSINESS

Master Of Science Thesis

Examiner: Professor Pertti Järventausta
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ABSTRACT

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Partnership networks are an essential part of organizing business. It is practically impossible to find a company, which handles its business without partners. Not even large multinational companies can manage, or it is not economically or otherwise reasonable to manage, all the phases and activities that are needed to cover the whole production process or value chain. Coordinating and renovating these phases and activities with the help of partnership networks has become a central tool.

The partnership network of Vattenfall Nordic Distribution Finland (VNDF) is unique among electricity distribution business branch. It can be said that VNDF has taken its actions deeper into the partnership network than any other electricity network company in Finland. For example, VNDF has outsourced all its electricity network construction, maintenance and fault repairing. While the majority of the rest in the business branch is focusing on how to build their partnership network VNDF is already focusing on the next step, which is the managing and developing of the partnership network.

The principal objective of this thesis is to develop the management of VNDF's contractor partners and the partnership network that they form. This principal objective is divided in four parts that define the structure of this thesis. The first objective is to examine theories about partnership networks, management of partnership networks and about measuring systems as a management tool. These are presented in the chapters two, three and four. The second objective is to sketch the contractor partnership network of VNDF, specify its typology and define what different levels of partnership denote between VNDF and its contractors. These are discussed in the chapter five. As the third objective, the chapter six discusses the found development ideas for the VNDF's management of its contractor partnership network according to the theories, VNDF's own needs and contractors' experiments. The last and most practical objective is to create a scorecard as a management tool for the annual contractors of VNDF. The created scorecard is presented in the chapter seven.

This thesis highlights interaction and strategy that is created commonly together with partners to be able to achieve all the benefits of individual partnerships and the whole partnership network. The created scorecard is a management tool that intentionally used can combine these two principles.

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Käytännössä on lähes mahdotonta löytää yritystä, joka hoitaa koko liiketoimintansa ilman minkäänlaisia kumppaneita. Kumppanuudet ja kumppaniverkostot sekä niiden hallinta on siis olennainen osa nykypäivän liiketoimintaa. Yritysten ei ole taloudellisesti, logistisesti tai muista syistä mahdollista tai järkevää hoitaa itse kaikkia tuotanto- tai liiketoimintaketjunsa vaiheita. Hyvin hoidetuista ja hallituista kumppanuuksista on tullut keskeinen osa rakennettaessa menestyksekästä liiketoimintaa.

Tämä työ on tehty Vattenfall Verkko Oy:hyn (VFV). VFV on osa Vattenfall konsernia. Yhtiö vastaa Vattenfallin sähköverkkoliiketoiminnasta Suomessa. VFV:n kumppaniverkosto on ainutlaatuinen sähköverkkoliiketoiminnan alalla. Voidaan sanoa, että VFV on vienyt toimintojaan enemmän ja pidemmälle omaan kumppaniverkostoonsa kuin mikään muu sähköverkkoyhtiö. VFV on esimerkiksi ulkoistanut kumppaneilleen koko sähköverkon rakentamisen, kunnossapidon ja vianhoidon. Sähköverkkoliiketoimintaa voidaan pitää hyvin perinteisenä alana, jossa laaja palveluiden ostaminen yksityisiltä palveluntuottajilta ei ole vielä kovinkaan yleistä. VFV:tä voidaan pitää tässä mielessä alan edelläkävijänä. Samalla kun pääosa muista yhtiöistä alalla keskittyy kumppaniverkoston luomiseen, VFV keskittyy jo seuraavaan vaiheeseen, joka on kumppaniverkoston johtaminen ja kehittäminen.

Tämä työ tutkii VFV:n verkonrakennusurakoitsijoiden muodostamaa kumppaniverkostoa ja sen johtamista. Työn päätavoitteena on kehittää tätä urakoitsijakumppaneiden johtamista VFV:ssa. Päätavoite on jaettu neljään osatavoitteeseen, jotka myös määrittelevät työn rakenteen. Ensimmäinen osatavoite on tutkia teorioita kumppaniverkostoista, kumppaniverkostojen johtamisesta ja erilaisista mittausjärjestelmistä kumppaniverkoston johtamisen työkaluina. Tämä on tehty kappaleissa kaksi, kolme ja neljä. Nämä kappaleet muodostavat työn teoriaosan. Työn toinen osatavoite on hahmottaa VFV:n urakoitsijakumppaneiden muodostava verkosto, määrittää sen typologia ja pohtia, mitkä teorioissa esiintyvistä kumppanuustasoista, joita ovat operatiivinen, taktinen ja strateginen, voidaan löytää VFV:n kumppaniverkostosta ja mitä ne tarkoittavat VFV:n ympäristössä. Näitä on pohdittu kappaleessa viisi. Kappale kuusi käsittelee työn kolmatta osatavoitetta, joka on tutkia VFV:n nykyistä kumppaniverkoston johtamista sekä löytää siihen kehitysehdotuksia pohjautuen teorioihin, VFV:n omiin tarpeisiin ja urakoitsijakumppaneiden antamaan palautteeseen. Neljäntenä ja konkreettisimpana työn osatavoitteena on kehittää ja määritellä tuloskortti VFV:n vuosisopimusurakoitsijoiden johtamisen työkaluksi. Tämä kehitetty tuloskortti on esitelty kappaleessa seitsemän. Työn johtopäätökset on esitetty kappaleessa kahdeksan.

Työ osoittaa, että parhaiten VFV:n kumppaniverkostoa kuvaava teoreettinen typologia on strateginen verkosto. VFV on verkostonsa keskusyritys ja johtaja. Strategiselle verkostolle ominaisesti VFV pitää yllä tietyntasoista urakoitsijoiden välistä kilpailua, mutta toisaalta rakentaa intensiivistä ja pitkäaikaisempaa yhteistyötä urakoitsijoiden kanssa. Strategiselle verkostolle tyypillisesti VFV:n kumppaniverkostosta löytyy eritasoisia kumppaneita ja verkostolla on yhteisiä kehitystavoitteita.

Työ toteaa, että kumppaniverkostojen johtamista tulisi aina toteuttaa kolmella eri tasolla. Johtamisen tulee sisältää yksittäisten kumppanuuksien hallintaa, kumppanuuksien hallintaa verkostona sekä verkoston ympäristön hallintaa. VFV:n tavoitteena on kehittää kumppanuuksia ja prosesseja yhdessä urakoitsijoiden kanssa. Tämä kehitys on saavutettavissa oikealla ja hyvällä johtamisella, mutta se vaatii myös itse johtamiselta kehittymistä, mieluiten hieman edellä itse kumppanuuksien kehittymistä. VFV:n kumppaniverkoston johtamisen nykytila on jo sinällään hyvä ja se antaa erinomaisen pohjan lähteä kehittämään sitä. VFV on ottanut määrätietoisen linjan johtamisen kehittämiseen.

Suurimmiksi kehityskohteiksi johtamisessa työ erittelee seuraavat asiat: VFV:n oman sisäisen kumppaniverkostostrategian selkiyttäminen ja systemaattinen määrittely, yksittäisten kumppanuusstrategioiden määrittely yhdessä kunkin kumppanin kanssa sekä sosiaalisen interaktiivisuuden ja kanssakäymisen lisääminen kumppaneiden kanssa. Lisäksi työ nostaa esille tarpeet johtamisen läpinäkyvyyden ja ennalta arvattavuuden lisäämisestä urakoitsijoita kohtaan sekä johtamisen näkymisen varmistamisesta koko kumppaniverkostossa ja VFV:n omassa organisaatiossa.

Työssä luotu ja kappaleessa seitsemän esitelty tuloskortti on työkalu VFV:n kumppaniverkoston johtamiseen. Se kiteyttää periaatteessa kaikki perustavaa laatua olevat lähtökohdat kumppaniverkoston johtamisessa. Se myös toimii osaratkaisuna työssä esitettyihin kehityskohteisiin. Tuloskortti kiteyttää kumppanuuden strategian ja tavoitteet, mittaa strategian toimivuutta ja lisää interaktiivisuutta, kun se analysoidaan yhdessä kumppanin kanssa. Tuloskortti lisää myös johtamisen läpinäkyvyyttä ja systemaattisuutta sekä johtamisen ja ohjauksen näkyvyyttä kumppanuuksien ulkopuolelle. Harkitusti käytettynä tuloskortti toimii erinomaisena työkaluna kumppaniverkoston johtamisessa.

Työ myös toteaa, että tiettyjen systemaattisuuksien luominen antaa hyvän pohjan kumppaniverkoston johtamiseen, mutta loppujen lopuksi jokainen kumppanuus on erilainen ja niitä on johdettava yksilöllisesti, mutta kohti verkoston tavoitteita. Lisäksi on muistettava, että varsinkin syvällisten kumppanuuksien johtaminen vaatii resursseja, jotka tulee aina muistaa varmistaa. Hyvä ja laadukas kumppaniverkon johtaminen mahdollistaa koko verkoston, yksittäisten kumppanuuksien ja yhteisten prosessien kehittymisen sekä edesauttaa haluttujen tulosten ja panosten saamista kumppaneilta.

PREFACE

The topic for this thesis was provided by Vattenfall Nordic Distribution Finland. The objective of the thesis was to develop the management of the contractor partnership network of Vattenfall Nordic Distribution Finland. The examiner of this study was Professor Pertti Järventausta from Tampere University of Technology. The supervisors from Vattenfall Nordic Distribution Finland were Martti Mäkiranta, manager of construction contracts and projects team, and Jarkko Kohtala, manager of asset management.

I wish to thank Jarkko and Martti for a challenging and interesting issue and for challenging my perspectives during the work. I would also like to thank Martti for the responsibility and taking me along to put the results of this thesis into action. In addition, I wish to thank Pertti for good advice and for examining the thesis. Also, I want to express my gratitude to everyone who I have interview and discussed with concerning my work. A sincere thanks goes to the fellow members of the construction contracts and projects team and to the whole staff of Vattenfall here in Tampere for many helpful services and support during this work.

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CONTENTS

ABBREVIATIONS AND NOTATION

BSC	Balanced Scorecard
CENS	Cost of Energy Not Supplied
CSI	Customer Satisfaction Index
EMV	Energy Market Authority
JIT	Just-In-Time
KPI	Key Performance Index
ROI	Return-On-Investment
SER	Scientific Energy Research Oy
TPS	Total Performance Scorecard
VDSC	Value Driving Scorecard
VFV	Vattenfall Verkko Oy
VNDF	Vattenfall Nordic Distribution Finland

1. INTRODUCTION

It is practically impossible to find a company, which handles its business without partners. Concentrating on core business, cost savings, efficiency, co-development, business growth to new areas, flexibility and reaction speed, among other things, have all motivated organizations to coordinate and renovate their business operations with the help of partnership networks.

In general, you cannot find so wide range of partnership networks from electricity distribution business as you can for example from manufacturing of electronics where a broad network of component suppliers is almost a must to survive in the markets. The electricity distribution business is a very traditional, some might even say a hardened, branch of business. This approach can partly be explained by the regional monopoly business position and broad municipal ownerships of the electricity network companies. The companies have not got so much pressure from the markets and owners for their efficiency.

The partnerships are slowly seen forming and growing also in the electricity distribution business. The easing of gaining additional resources, possibility to focus on core business, cost savings and possibility to exploit the best practices and know-how in the industry motivates the electricity distribution companies towards partnership networks. A recently made study of outsourcing services in the electricity distribution network industry (Aminoff et al. 2009) confirms this development and examines the factors of successful service purchasing. This describes well the general situation in this business. To organize business with partnership networks is still quite new and the main focus is on creating and building them.

This thesis is carried out to Vattenfall Nordic Distribution Finland (later VNDF), which is the second biggest electricity network company in Finland. VNDF is the pioneer company in the electricity distribution business when observing the organizing of business with partnership networks. The partnership network of VNDF is unique in this branch of business. It can be said that VNDF has taken its actions deeper into the partnership network than any other electricity network company in Finland. For example, VNDF has outsourced all its electricity network construction, maintenance and fault repairing. These services and many others are purchased from the partnership network. The partnership network of VNDF has been formed through outsourcing, and the leading motive of VNDF to outsource has been the creating of true service providing market for this branch of business. With the functional markets VNDF can create a competitive partnership network and achieve its other objectives.

While the majority of rest in the business branch is focusing on how to build their partnership network, VNDF is already focusing on the next step, which is the managing and developing of its partnership network. This step has also been seen in the business branches where the partnerships networks have existed for a longer time. Some of the purely customer-supplier production relationships have developed into cooperative product designing relationships. In the same way, VNDF wants to develop the whole partnership network and develop some of the individual partnerships into a deeper cooperation level. The management of the partnership network steers this development and the management itself must develop at the same phase or a little ahead with the partnerships.

This thesis studies the partnership network of VNDF formed by electricity network constructing contractors and when discussing the partnership network of VNDF in this thesis the contractors are meant. The principal objective of this thesis is to develop VNDF's management of its contractor partners and the partnership network that they form. This principal objective is divided into four parts that define the structure of this thesis. Firstly, the objective is to examine theories about partnership networks, management of partnership networks and about measuring systems as a management tool. This is done in the chapters two, three and four, which form the theoretical basis of this work. The applied part of this thesis starts with the second objective, which is to sketch the contractor partnership network of VNDF, specify its typology and to define what different levels of partnership denote between VNDF and its contractors. These are discussed in the chapter five. As the third objective, the chapter six discusses the found development ideas for the VNDF's management of its contractor partnership network according to the theories and contractors' experiments. The last and the most practical objective is to create a scorecard as a management tool for the annual contractors of VNDF. The created scorecard is presented in the chapter seven. The chapter eight is for the conclusions.

In the applied part of this thesis, the references to opinions and feedbacks of the contractors of VNDF are based on general feedback and discussions with the contractors. In addition, some conversations purely concerning this thesis where held with Pekka Patjas (2009), Hannu Koistinen (2009) and Hannu Rovio (2009) who each represent one contractor of VNDF.

Even the practical objective of this thesis is to create a scorecard, the thesis does not concentrate on discussing about scorecard theories but more on using the scorecard as a management tool. Also, another thing to notice is that the Vattenfall is a multinational concern but this thesis discusses only about the Vattenfall Nordic Distribution Finland.

2. PARTNERSHIP NETWORKS

Anyone working on partnership networks should know something about network researches and theories. Even the slightest knowledge helps to visualize the basic elements of partnership networks and opens different perspectives. Every network is unique and everyone inside the network has his own view on it. Knowing these facts and fundamentals gives a great start to navigate and operate in partnership networks, understanding, building and managing them. This can be summarized from Castells (1996), we are transforming to a network society where understanding of network characteristics and dynamics and networks relationships play a key role.

Networks revolution can be seen started from 1980's when many researches indicated that network operation model was useful and beneficial in industrial exchange economy (Vesalainen 2006). Since then partnership network has been a fashion term, yet there is still no generally accepted definition for it. The problem is rather the variety of different terms and perspectives than the lack of them. Different researches approach networks from different angles and with different terms. But as mentioned before everyone inside the network has his own view on it and the definitions rather complete each other than compete.

This chapter starts with defining a partnership network and examining the factors that motivate organizations towards networks. Some theoretical perspectives to networks are as well examined. The chapter also presents some network typologies and the different partnership levels within a partnership network. The end of this chapter deals with risks and benefits of networks and partnership networks in electricity distribution business.

2.1. Towards networks

We are living in a continuously networking economic society. This development started in 1980's from simple subcontracting in customer-supplier relationships. Earlier these relationships and their structures between firms were explained through self-regulating nature of marketplace, market-mechanism, and through hierarchy-mechanism that organizes firms as hierarchic structures to achieve efficiency. Today, in network economy, these inter-firm connections are seen as intermediate form of hierarchy and market-mechanism. This is presented in Figure 2.1. Networks have different forms and structures depending on how close they are to these extremities. (Vesalainen 2006)

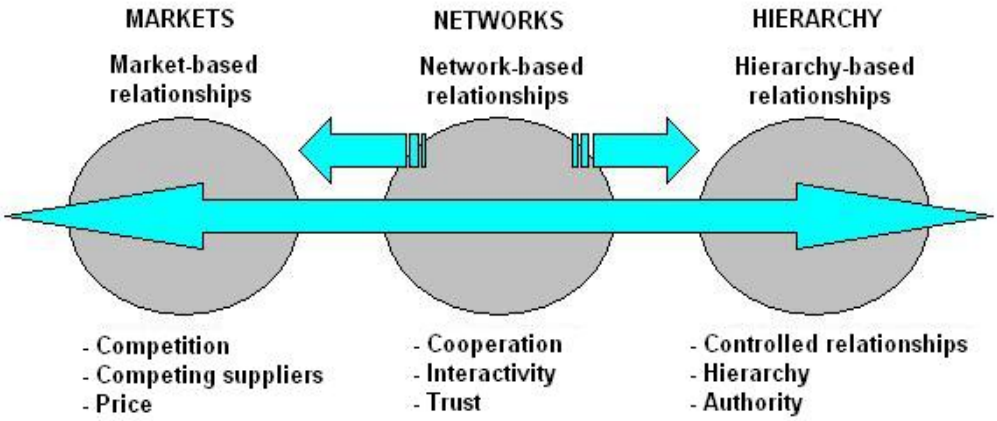

Figure 2.1. *Basic models to organize business relationships (adapted from Möller et al. 2004).*

It is obvious that in recent years these market and hierarchy based customer-supplier relationships have radically expanded and diversified. Cooperation and interaction-based network relationships have increased rapidly. New network organizations, so-called partnership networks, arise all the time through outsourcing and cooperation.

2.1.1. Definitions

Basically any group that is formed when more than two firms are doing occasional or established business can be called as a network. That is why it is crucial to define what is meant here by partnership networks. Möller et al. (2005) distinguishes two terms a ”network of organizations” and a “network organization”. The former refers to any group of organizations as described earlier. Before we can use the term “network organization” from a group of organizations the members should experience themselves at least somehow dependent on the other members and responsible for the overall success of the network. Network members should see the whole picture and know their roles and responsibilities when doing business in the area that can be seen as the competence area of the network. (Kulmala 2003; Möller et al. 2005)

These “network organizations” occur in many forms and purposes for example supplier networks, delivery networks, service provider networks, technology development networks, etc. Möller et al. (2005) uses a term “strategic net” of these ”network organizations” to distinguish them from more general “networks of organizations”. Depart from Möller et al. (2005) in this thesis these intentionally formed “networks organizations” are called partnership networks. The use of this term is established practice in Vattenfall Nordic Distribution Finland (VNDF). Inside these partnership networks exist different levels of partnership and different bonds between the members of the partnership network, which are defined in chapter 2.3.

2.1.2. Motives

The pressure of global competition, lower transaction-costs and new tools provided by information technology have influenced strongly to competition and to the structure of different branches of business. These changes together with increasing costs of product development and growing complexity of products and services offered to end-customers have forced organizations to focus on their core competence. This has lead to a wide outsourcing and to a birth of many new service providers. Not even large multinational companies can manage or it is not economically reasonable to manage all the phases and activities that are needed to cover whole production process or value chain down to end-product marketing and end-customer relationships. Coordinating and renovating these phases and activities with the help of the partnership networks has become a central tool. (Möller et al. 2004)

There are many things that drive and motivate organizations to connect and create partnership networks. One is to organize business relationships so that cost savings are achieved and the cost efficiency of the whole production chain improves compared to competing production chains. Another motive towards partnership networks is business growth. It can be achieved by creating new business areas or gaining new or better marketplace within the network. Access to network's information, learning from the partnership network and co-developing new technologies or service models also motivates organizations to join together. (Ali-Yrkkö 2001; Kulmala et al. 2004; Vesalainen 2006)

Constantly changing and complicating dynamic business environment also drive organizations towards partnership networks. Simple products are changing to large systems that contain product, service, and software elements. Rapidly changing social trends influence consumers' behavior. Technological know-how, market information etc. is scattered all over in specialized companies and institutes. Managing all these things demand coordinating and interacting between different organizations. The technology and consuming cycles are also faster than ever. The speed of technological development forces organizations to concentrate on core business, which leads to growing number of specialized suppliers and part deliverers. The development speed also demands fast market access, which requires flexibility and good supply chains. Partnership networks provide better flexibility than traditional organizational models. (Jarillo 1993; Ali-Yrkkö 2001; Möller et al. 2004; Vesalainen 2006)

The recent study of outsourcing services in electricity distribution network industry (Aminoff et al. 2009) shows that the main reasons for electricity distribution network operators to use outsourced services are easing of gaining additional resources, possibility to focus on core business, cost savings and possibility to exploit the best practices and know-how in the industry. These all are undisputed advantages of doing business in partnership network. Ståhle & Laento (2000) summarize well what motivates organizations towards partnership networks: Network organization enables sufficient flexibility and fastness at the same time when it enables constant integration

of information and creates a successful environment for creating new and bringing up new innovations.

2.1.3. Theoretical approach

Literature and different researches present various views why networks form and what their innermost essence is. Möller et al. (2004) describes the situation well by a famous story of six blind men figuring out an elephant, each approach gives a partial aspect but no one does form the whole picture. Vesalainen (2006) has identified nine theoretical approaches to networks. These approaches are presented in Table 2.1. Vesalainen (2006) divides these nine approaches to three main perspectives: economical, managerial and social psychological. The theories within economical perspective focus on financial matters and they try to explain networks through scientific economic laws. It emphasizes hard elements like financial benefit, rational decision-making, resources and power. The social psychological perspective puts human being at the centre of all activities within networks. Networks are seen as human relationships. Things like trust, chemistry of relationships and learning are highlighted. The managerial perspective focuses on strategic organizational business management where networks are seen as a tool for organization leaders to ensure the organization's fruitfulness.

Table 2.1. *Theoretical approaches to networks. (compiled from Möller et al. 2004; Vesalainen 2006.*

Perspective	Theoretical approach	References
Social psychological	Social Exchange Theory	Dwyer et al. (1987) Emerson (1962) Kelley & Thibault (1978)
	Social Capital Theory	McNaughton (2000) Nahapiet & Goshal (2000)
	Learning Organization	Möller & Svahn (2006) Vesalainen & Strömmer (1999)
Economical	Resource Dependency	Pfeffer & Salancik (1978)
	Transaction Cost Theory	Coase (1937) Williamson (1975, 1981, 1985)
	Game Theory	Treynor (1999)
Managerial	Resource-Based View	Barney (1991) Hamel & Prahalad (1994) Wernerfelt (1984)
	Interactive Approach	Ford et al. (1986) Håkansson (1982) Håkansson & Ford (2002) Möller & Wilson (1995)
	Strategic Networks	Hyötyläinen (2000) Jarillo (1988, 1993) Möller et al. (2005)

The main reasons for electricity distribution network operators to use outsourced services are easing of gaining additional resources, possibility to focus on core business, cost savings and possibility to exploit the best practices and know-how in the industry. (Aminoff et al. 2009) All of these reasons can be found from the theoretical approaches that are presented in Table 2.1. These theories that partly can explain the existence of partnership networks in electricity distribution business will be shortly examined next.

The resource dependency approach is based on a view where organizations are seen dependent on each other's resources. This dependence influences on organizations behavior and forces them to exchange economy with other organizations within the business environment. Organizations try to build their relationships so that the dependence of others is controllable. A central term is switching costs, which means the costs caused when cooperation partner is changed. The bigger the cost, the bigger the dependence. According to this resource dependency approach the position of an organization within the business environment is defined by its resources and by their quality and demand. So even the limited resources can give an excellent network position if these resources are unique. (Möller et al. 2004; Vesalainen 2006) The easing of gaining additional resources can partly be explained through this approach. This resource dependency forces organizations to connect and create partnership networks.

The resource-based view starts from the point that the organization's competitiveness is based on its core competence and capability that it has created. Core capability is the way to use organization's core competence so that it adds value to the final customer. So organization should have core competence and capability to use it as beneficial as possible. This as whole can be called as core business. The resource-based view includes developing of this core business but it also includes the selectivity between these competences and capabilities. This means specialization and reducing the insignificant resources. Organization should focus on its true core business to create competitiveness and to get the other resources that are insignificant for the core business from the partnership network. (Möller et al. 2004; Vesalainen 2006)

The cost saving reason for networks can be examined through transaction cost theory. The transaction cost theory is perhaps the best-known theory for reasons to outsource and create partnership networks. The core of the theory can be crystallized to organization's "make or buy" decision-making. According to this approach, an organization can rationally conclude if it is beneficial to make a certain good by itself or to buy it from the markets. Business costs are divided in two parts: manufacturing costs and transaction costs. Manufacturing costs include all the costs that involve to organizations internal manufacturing activities. Transaction costs include all the costs that are caused by the exchange business between organizations. For example costs from searching the right partner, evaluating of the partner, negotiations, logistics, management, surveillance, quality control etc. Organizations search for balance between these two costs so that the result is optimized. If the transaction costs are lower than internal manufacturing cost then the action should be outsourced. Some people even say

that creating a partnership network is “educated outsourcing”. (Coase 1937; Williamson 1981; Möller et al. 2004; Vesalainen 2006)

The learning organization approach partly explains why partnership networks create a possibility to exploit the best practices and know-how in the industry. Networks can be seen as learners and also as a learning forum. The central idea of this approach is that all operations of the partnership networks are based on organizations information and know-how. Every organization can learn from the network and new innovations created by one organization can spread all-around the network. This demands good relationships and trust between the different organizations. With these network relationships and with evaluating them, experimenting and searching for new solutions within the partnership network one can learn and develop to be a better operator in the business environment. (Möller et al. 2004; Vesalainen 2006)

The strategic networks approach examines intentionally formed and managed networks, in other words these partnership networks. Partnership networks are seen as intentionally chosen model to execute business operation. This approach includes many things from the other approaches and it is the most uniting theoretical view. The approach of this thesis can be included to this view. The studies of strategic networks emphasize analyzing of actions, which are needed to produce a certain product or service to a final customer. This analyzing includes the recognizing and developing of the core competences and capabilities. Other central focuses of strategic network approach are the tools of the building, managing and developing partnership networks and defining and developing different roles of the members within a partnership network. The actions of partnership networks aim to overall development of the whole network. In most cases the central organization treats suppliers as long-time partners and weakly performing supplier is not immediately replaced. Normally partnership networks have a network vision, network strategy and commonly accepted operation modes. The different levels of partnership within the partnership network vary from operational to strategic partnership. The essential part in these partnership networks is the birth of different coordination and operation models between organizations. For example, different cooperation teams, meeting practices and performance measuring systems are important. (Jarillo 1993; Hyötyläinen 2000; Möller et al. 2004, 2005)

2.2. Typology of networks

There are many ways to form and build partnership networks. Every network is unique and customized to meet the demands of the network. Organizations can have different positions and tasks within a network. A network can be led by one big central organization or it can be formed by several equal organizations. Geographically a network can be local, regional, national, international or global, yet a network does not know borders or it must not be forced to a certain area. Also a successful network alters when the surrounding environment changes. With that in mind one can understand that there are many typologies for partnership networks. (Niemelä 2002)

Möller et al. (2005) divides partnership networks in three main categories: vertical value networks, horizontal value networks and multidimensional value networks. On the other hand Luomala et al. (2001) presents four different network models: Japanese, western, strategic and a channel model. These four models can be included to the three main categories presented by Möller et al. (2005) and that will be examined next.

2.2.1. Vertical models

There are two generic processes for creating partnership networks: divergent and convergent. In the divergent process organization sells parts of its production chain or supporting services to another organization. In other words divergent networking is a typical form in outsourcing. A good example of convergent process is when a group of carpenter firms form a network where everyone focuses on a specific task for a common goal. One makes the legs of the chair, one the backs, one assembles the pieces and one paints and so on. The initiator of the convergent process tries to control the activities of separate firms. Like in this example it would try to influence the carpenter firms to focus on a specific product to avoid the situation of having many chair suppliers. In the convergent process the number of direct supply relationships decreases, while in the divergent process it increases. (Niemelä 2002; Kulmala 2003)

The divergent and convergent processes are both ways to create vertical networks. In the vertical networks organizations working in different phases in the same production process or value chain are connected. The vertical network is a hierarchy network where the network foreman and suppliers are clearly recognizable. Möller et al (2005) believe that the most important goal of vertical value nets is to increase the operational efficiency. A typical example of vertical network is a supply chain. From the four network models presented by Luomala et al. (2001) two can be included to vertical nets: the Japanese and the Western model.

The Japanese model can be described as a hierarchical pyramid, see Figure 2.2. On the top of the pyramid there is the foreman or the main contactor who only has a certain number of direct main suppliers. On the next level in the network there are special suppliers and on the lowest level there are general suppliers. (Luomala 2001)

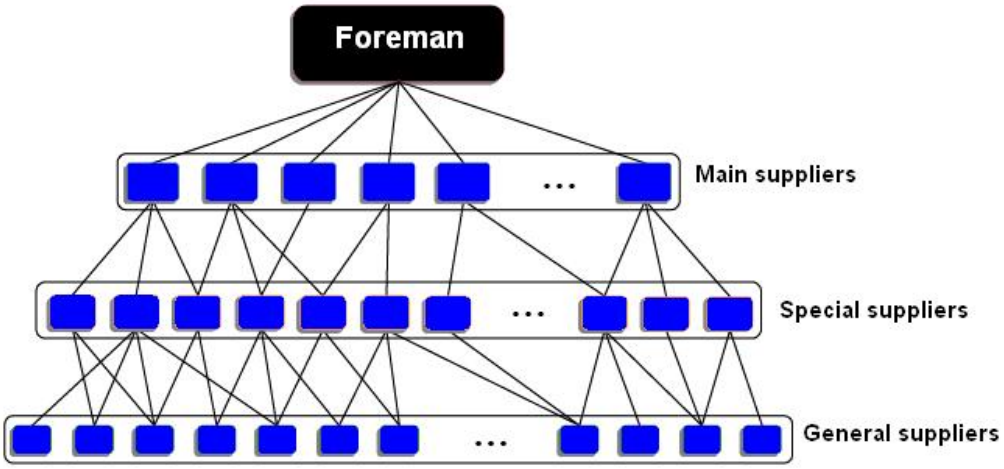

Figure 2.2. *Japanese network model (adapted from Luomala 2001).*

The foreman has a limited number of direct relationships with main suppliers. These main suppliers fulfill large and special needs of the foreman, for example large system supplies, coordination of operations, selecting subcontractors, quality control, development activities etc. The main suppliers integrate the system supplies using lower level suppliers and manufactures. The foreman has special demands and requirements for main suppliers that concerns for example return of investment. In return, the main suppliers are rewarded with long-term contracts and franchising. The foreman has only one main supplier for each activity, in other words, these main suppliers do not compete against each other. The main suppliers are often connected to only one or few foremen. For the foreman concentration to main suppliers has enabled to focus on the availability and innovativeness of the products instead of just focusing on the price. (Luomala 2001)

The special suppliers are firms that provide special products or special skills for main suppliers, although these special suppliers can have a direct relationship to another foreman of a different network. Typically these special suppliers are specialized to certain technical area and are providing services within that area like product designing and maintenance. (Luomala 2001)

The general suppliers on the lowest level of the network have no special competence area. They deliver and supply standard materials and services. These general suppliers work in many networks and offer services to many directions. (Luomala 2001)

Depart from the Japanese network model in the western model there is always certain confrontation between the foreman and the suppliers. The interaction is based on price competition, tendering, where the suppliers compete. The foreman can have many suppliers for the same purpose. The foreman takes care of the product development and gives full specifications to suppliers manufacturing. In this western model there can also be suppliers that deliver larger systems, which can have their own sub-networks. The structure of the western network model can be seen in Figure 2.3. (Luomala 2001)

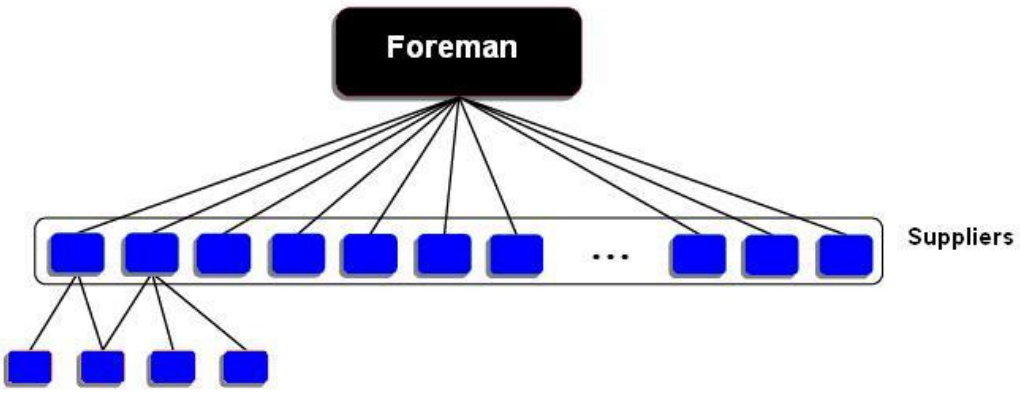

Figure 2.3. *Western network model (adapted from Luomala 2001).*

Contracts between the foreman and suppliers are generally short and typically the foreman takes care of the all supply relationships. The suppliers are kept separately and in tight competition. (Luomala 2001)

2.2.2. Horizontal models

In the horizontal networks organizations working in the same or parallel phase in the same production process or value chain are connected. Typical examples of horizontal networks are competition alliances, resource alliances and market cooperation alliances.

Airlines frequent flyer -programs like "OneWorld", "Star Alliance" etc. are widely known competition alliances. Möller et al. (2005) points out that generally the aim in building horizontal network is to connect resources or co-develop new resources. In other words the main reason for horizontal networks is these resource alliances where organizations balance each other's peaks of consumption or for example integrate each other's databases. Horizontal market cooperation networks are created when competing organizations recognize that they have a product, channel relationship, customer-service system etc. that can be combined to achieve a stronger position in global competition. For example company manufacturing garden chairs and company manufacturing garden tables connects and starts to market their products together. (Niemelä 2002; Möller et al.2005)

In Figure 2.4 described vertical and horizontal networking can often occur at the same time. For instance, when a large mobile phone manufacturer has many suppliers for a certain component and these suppliers network horizontally to market or to develop this component together.

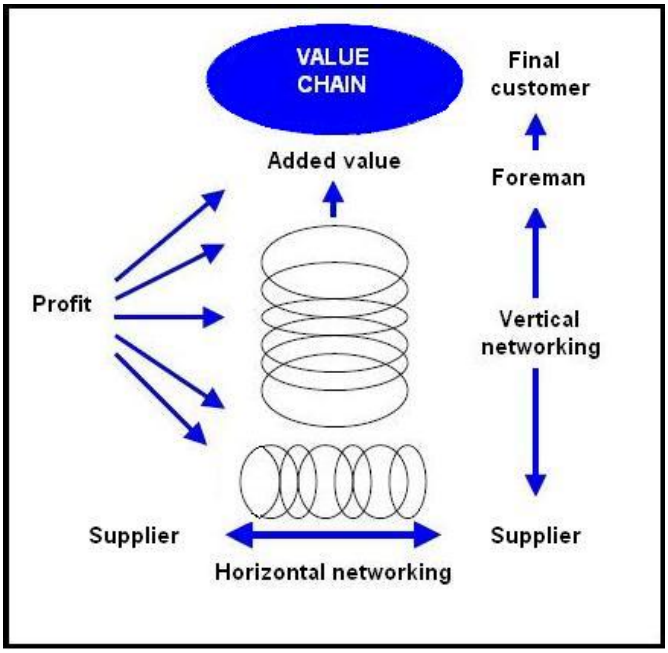

Figure 2.4. *Vertical and horizontal networking (adapted from Niemelä 2002).*

In the horizontal networking organizations working in the same phase of the value chain are connected when in vertical networking organizations working in different phase are connected. In this value chain the added value of a product or service increases when getting closer to the final customer. In an ideal case the profits created by tight cooperation are divided by "win-win" –principle so that everyone benefits from the network.

2.2.3. Multidimensional models

The third network category presented by Möller et al. (2005), multidimensional value networks, includes "hollow" organizations and complex business partnership networks. In a multidimensional network the central organization creates its market offer by integrating the needed products and services from a group of different types of suppliers and firms. A typical example of a "hollow" organization is Benetton, which sells fashion clothes. Benetton has practically outsourced everything except brand management and marketing to its partners and in that way created a multidimensional network.

From four network models presented by Luomala et al. (2001) the last two ones, the strategic and the channel model, can be included to multidimensional networks. One can find both Japanese and Western features from the strategic network model. It combines the western focus to several parallel partnerships and on the other hand the Japanese focus to the tight and close cooperation between the foreman and suppliers. In the strategic network the operations are organized according to a common strategy and principles. The organizations within the network are committed to work and develop the network systematically. The main features of the strategic network are the long-term

multidimensional cooperation between the organizations, developing the cooperation to a whole new level and organizing the network operation according to the common network strategy. The strategic network forms a learning area where organizations learn from each other. The information and know-how stays in the network and everyone benefits from it. The structure of the strategic model is presented in Figure 2.5. (Luomala 2001)

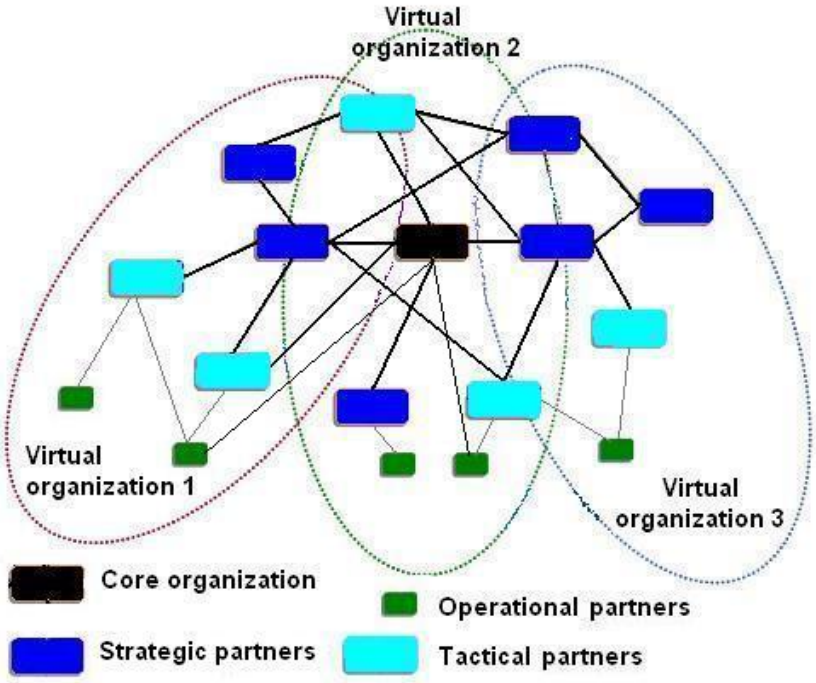

Figure 2.5. *Strategic network model (adapted from Luomala 2001).*

Typically, in the strategic network, there is a clear central organization that has a key role in the building, developing and maintaining of it. The central organization is surrounded by strategic partners. These strategic partners have a tight relationship to the central organization or to other strategic partners. On the next level there are tactical partners and on the third level operational partners. These different levels of partnership are defined in chapter 2.3. (Luomala 2001)

Strategic partnership networks can create virtual organizations for a certain purpose, task or project. These projects can for example be product development or logistic improvement. Virtual organization is a subgroup within a strategic network. The organizations that are essential to fulfill the project are chosen from the strategic network to form the virtual organization. Also organizations outside the strategic network can be included when needed. Unlike the strategic network the virtual organizations exist limited time only. When the project is fulfilled the virtual organization is shut down. Perhaps the most typical example of a virtual organization is a research project where certain research institutes are chosen and connected. (Luomala 2001) A recent example of this kind of research virtual organization is Scientific Energy

Research Oy (SER), which is founded by the biggest energy education and research units in Finland, technical universities of Tampere and Lappeenranta. SER is considered a resource coordinating and guiding organization, which uses the staff of the universities so that every research project can have the best specialists in the country. This specialist network includes approximately 360 experts. (Ylönen 2009) There is no specified time for the existence of SER so it differs a little from a traditional virtual organization.

The other multidimensional network model, the channel model, presented by Luomala et al. (2001) brings business perspective to partnership network models. Business and trading always includes certain basic functions: marketing, persuading and gathering feedback, financing the business, collecting and preserving business information and delivering the goods. These basic functions can be seen as channels from raw material to final customer consumption. Both material and information travels through these channels. The structure of the channel model can be seen in Figure 2.6. (Luomala 2001)

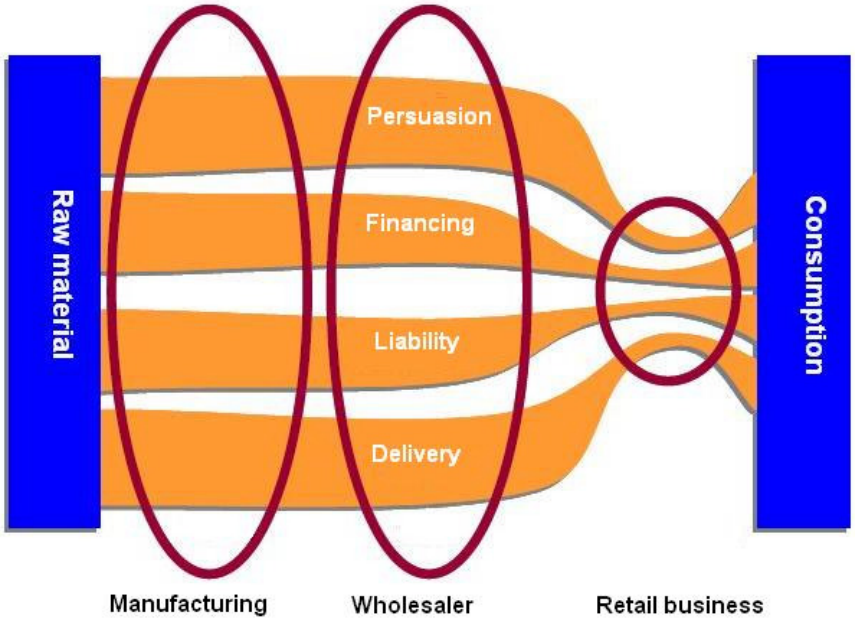

Figure 2.6. *Channel model (adapted from Luomala 2001).*

The more specific content of the channels is following:

- Persuasion channel: Creating product brands, product information, sales promoting, public relationships, customer life cycle management, feedback.
- Financing channel: Finance alternatives, payment transfers, terms of payment, credits, deposits, financial risk management.
- Liability channel: Creating trust, reliable documentation of business records, contract upkeep and indisputableness, responsibility, reclamations.
- Delivery channel: Logistics, transports, stocking, maintenance, recycling, disposal. (Luomala 2001)

Earlier every step in a production chain, manufacturer, wholesaler and retail shop, have tried to coordinate and manage all of the channels. Nowadays one can see differentiation of the channels. Many different organizations appear to the channel model and they no longer cover all the channels. So a partnership network is formed. Efficiency demands and focusing on the ones core business is the main reason for differentiation. For example marketing, financing, contracts and logistics are very different operations, which demand expert knowledge. The channel model highlights the production process and its four channels from raw material to final customer. Many organizations act in these different channels simultaneously and the meaning of coordination and strategic steering grows when working in a partnership network like the channel model. (Luomala 2001)

2.3. Different levels of partnership

The nature, level, risks and possibilities of a partnership change according to its goals. Partnership and cooperation forms and creates added value differently depending where the partnership aims. Ståhle & Laento (2000) separates three basic tools of a partnership. Firstly, information capital is needed. If someone does not have any information capital like know-how, products, market shares etc. to share it is impossible to work as a partner. Secondly a partnership always needs trust. Partnership is a relationship, which is based on trust, and without it any partnership cannot succeed. Thirdly, the aim of a partnership is always to create material or immaterial added value. (Ståhle & Laento 2000)

Different partnerships demand a different amount of trust, information capital or integration of know-how. At the same time they have different possibilities to profits or losses. In low-level partnerships the possibilities to profits and risks of losses can be estimated. On the other hand there are high-level partnerships where the possibilities to profits are high but so are the risks as well. Estimating the risks and profits and controlling the relationship is difficult in these high-level partnerships. The rule of the thumb is that the meaning of all these three dimensions increases in the same proportion. The higher the profits the higher the needed trust, integration of know-how and risks; see Figure 2.7. (Ståhle & Laento 2000)

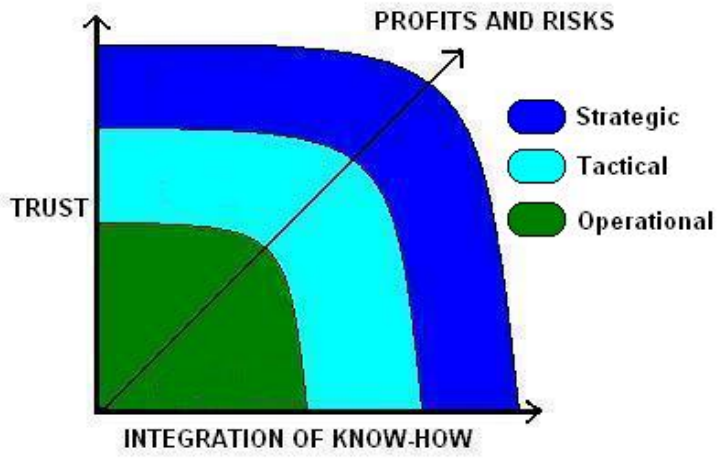

Figure 2.7. *Different levels of partnership (adapted from Ståhle & Laento 2000).*

In order to succeed in building and managing partnerships one needs to understand the different levels and natures of partnerships. Ståhle & Laento (2000) presents the understanding of the partnership's nature as the most important tool for the success. They divide partnerships into three levels, operational, tactical and strategic. This division is very applicable and functional in many different branches of business.

2.3.1. Operational partners

Customer-supplier relationship is the most typical example of an operational partnership. The closer the partnership is to buy–sell action the more operational it is. The operational partnership is based on common interest, both parties have a will to cooperate through strategy but both have their own economical goals. Organizations are separate but one has taken responsibility of another's part process for example through outsourcing. The cooperation is minimal and short-term and mainly based on the buyer's, the foreman's, purposes. Normally, in partnership networks the foreman has many operational partners that are kept in tight competition so the biggest threat for the supplier in the operational partnership is the lost of a customer. (Ståhle & Laento 2000)

The operational partnerships normally aim at cost savings and gaining of additional resources. The buyer does not try to exploit nothing else but the supplier's production recourses and that is the reason why cooperation link is thin. The bought products or services are simple, general and ready to attach to the buyer's business process, so actual learning and integration of know-how is basically not happening on either side. Risks are small and the profits can be calculated and estimated beforehand. Independent information capitals and tight competitive settlement does not need or enable any special trust. The partnership is based on contracts and trust is formed when everyone works according to them. (Ståhle & Laento 2000)

2.3.2. Tactical partners

The nature of tactical partnership is open. It demands trust and it does not work just with contracts. The aim of tactical partnership is to learn new things, combine processes, reduce overlapping actions and connect work cultures. As a result of this integration partners achieve cost savings and increase their information capital. Tactical partnership has a great potential to grow and the result cannot be estimated as precise as in operational partnership. The result is also heavily connected to the level of integration and how well information is chancing in a trusting environment. (Ståhle & Laento 2000)

As discussed earlier, in the operational partnership the product or service is simple and well defined while in the tactical partnership the situation is more complex. Complex products or services demand more integrated systems and more exchange of information. The meaning of trust increases but so does the possibility to profits and losses as well. The goals of tactical partnership should not just aim at cost saving but also at learning, developing and bringing up new ideas. The goals should also be derivable from both of the partner's strategies and agreed in mutual understanding. Naturally the details of the tactical partnership are written in the contracts but the partnership cannot only be based on them. The development and new ideas only appear when trust enables free exchange of information capitals. (Ståhle & Laento 2000)

2.3.3. Strategic partners

With strategic partnership companions try to integrate the information capitals so that both achieve significant strategic advantages. Partners work in true interdependence because strategic connection demands revealing of information or handing out significant strategic information to common use. When organizations are connected to each other's core competences, core processes, their relationship develops more and more diversified, interactive and intensive. The role of trust becomes central. Strategic partnership is very vulnerable and risky relationship, but it has the biggest potential to the biggest profits. It is a relationship that enables possibility to grow to a whole new level of know-how and productivity. Organizations can reach new strategic areas that they could not reach alone. (Ståhle & Laento 2000; Luomala 2001)

Unlike in most of operational and tactical partnerships in strategic partnership companions have equal positions and roles that complete each other. Strategic partnership demands trust but also determination of boundaries between shared and secured information. Organization must learn how to see where the strategic profits occur and work as open as possible in that area but also to secure the information from other areas. The analyzing of risks and profits is very difficult and challenging. The protection of own information capital should be included in contracts but the base of the partnership is in trust, which is impossible to ensure only with contracts. (Ståhle & Laento 2000)

2.3.4. Development of partnership levels

Kuivanen & Hyötyläinen (1997) separates four different stages in development from an operational partnership to a strategic partnership. At stage one there is operational partnership, at stage two low-level tactical partnership, at stage three tactical partnership and at stage four strategic partnership. See Table 2.2. (Kuivanen & Hyötyläinen 1997)

At stage one the supplier or service provider works only as a resource bank and as a simple manufacturer for the foreman. The relationship is purely operational and based on price competition. When the foreman wants to develop this partnership forward to stage two, the foreman and supplier connect their processes more closely. They start to use Just-In-Time (JIT) delivery method and the supplier takes part in product designing. The goal of this low-level tactical partnership is to reduce total costs. (Kuivanen & Hyötyläinen 1997)

This low-level tactical partnership can evolve to a real tactical partnership where the foreman's and supplier's processes really combine and the supplier can take part in for example product development. This enables fast market access of products. Within time and with will the partnership can develop to stage four, strategic partnership, where one can speak about development forum that has a common vision about future. It emphasizes innovations, flexibility and common values. (Kuivanen & Hyötyläinen 1997)

Table 2.2. *Development stages of partnership. (adapted from Kuivanen & Hyötyläinen 1997).*

	1. Operational partnership	**2. Low-level tactical partnership**	**3. Tactical partnership**	**4. Strategic partnership**
Quality	Product is made and inspected	Developing the material quality	Developing the functional quality	Developing the product and processes together
Logistics	Order and delivery depending on the situation	Planned JIT - delivery	Systematic delivery	Systematic and automated delivery
Product or service development	The foreman is responsible	Cooperation in product designing	Cooperation in product development	Common vision
Supplier choose criterion	Price	Total costs	Speed and performance	Development potential

One can criticize this model of development. The stages are not really that simple and one customer-supplier relationship can have many features. For example one supplier has many products and the situation with the customer, the foreman, is different with every product. In addition, this model is clearly from some kind of manufacturing business like electronics industry. The applicability of this model to different branches

of business has to be critically examined. After all, the model gives a good general picture of different levels of partnerships and how they tend to develop in stages.

2.4. Risks and benefits of networks

The clear benefits of doing business in a partnership network have come up in this thesis when examining the motives and theoretical approaches to networks. Many researches and practical experiments have shown that these benefits really can be achieved. For example the research of outsourcing services in electricity distribution network industry (Aminoff et al. 2009) states that organizations have achieved their goals, which they have settled for outsourcing, like cost savings and all-round improvement of operations. Another study (Vesalainen 2004) also shows that in industrial customer-supplier relationships productivity can be increased significantly by developing the partnership. There are also few critical views that do not deny the results of improved delivery times, quality and delivery reliability when working in a partnership network but they say that these achieved benefits will disappear among other things that affect productivity. Like when looking at return on investments it is hard to find the benefits of working in networked environment. That is because there is no clear line from investments to achieved profits. (Vesalainen 2006)

Working in partnership networks also has its risks. In any business operations risk management plays a vital role. Aminoff et al. (2009) have listed risks and benefits of purchased services according to Kremic et al. (2006). This list is very adequate and it gives a good overview of the risks and benefits of working and purchasing services from partnership network. See Table 2.3.

Table 2.3. *Risks and benefits of purchased services. (adapted from Kremic et al. 2006; Aminoff et al. 2009).*

Benefits	Risks
- Cost savings - Increased focus on core business - Access to skills, talents and best practices in the industry - Access to latest technology / infrastructure without large investments - Possibility to learn from other's mistakes and success - Quality improvement - Easing of gaining additional resources - Increased speed - Better cost-awareness - Transfer of fixed cost to variable - Less negotiation partners and less to negotiate when suppliers are given the authority - Legal compliance - Getting rid of problem functions that would need extra resources in future - Greater flexibility	- Unrealized cost savings or hidden costs - Loss of core competence - Loss of knowledge/skills and/or corporate memory and the difficulty in reacquiring a function - Supplier problems (poor performance or bad relations, opportunistic behavior, not giving access to best talent or technology) - Poor selection of partners. No real competition. - Poor contract. Difficulty to describe the content and the quality criteria of purchased services - Creating a competitor for self - Power shift to supplier - Not knowing the internal costs of services before purchasing them - Not enough purchasing skills - Interruption of critical information streams - Legal obstacles - Poor morale/employee issues - Less flexibility - Uncertainty/changing environment - Capability to react environmental changes is weaker - Loss of synergy - Security issues - Losing customers, opportunities or reputation - False sense of irresponsibility

Operating in a partnership network is based on balancing between the benefits and risks. Every partnership should be analyzed. Different relationships emphasize different factors. Even if the organization decides not to use partners or develop the partnership further in a certain area, the hours spent in analyzing will not be wasted. It is important to know one's own processes. (Aminoff et al. 2009)

2.5. Partnership networks in electricity distribution business

Normally electricity distribution business is seen as a very traditional and hardened branch of business. It has had a strong label of self-doing and solvency. Nevertheless, within last ten years the branch has seen some re-organizations driven by the focus on core business. Basically, this has increased the amount of outsourcing and purchased

services. At the same time the service market has started to develop and the service supply for the electricity distribution operators has also increased. (Aminoff et al. 2009)

Electricity distribution business is quite unique. It has several characteristics that influence to the partnership networks within the business. One is the strong role of municipal ownership of the distribution companies; it is the most common way of ownership in the business. In the most cases the municipal ownership favors self-doing instead of buying services from partners. The fear of losing local authority might influence to this. Yet, even in the municipal ownerships the maximization of profits by cost savings through partnership relationships is no longer a strange concept. There are three main methods organizing these relationships: in-house operation, purchasing services from an independent business unit within own organization or purchasing services from totally independent service providers outside own organization. (Aminoff et al. 2009)

Another characteristic of distribution business is its position as a natural monopoly. It is not economically reasonable to build parallel electricity distribution networks. This monopoly is controlled through legislation and public authority surveillance. The public official Energy Market Authority (EMV) defines reasonable profits through regulation model. This regulation model does not comment on using partnerships but it takes for example operational costs into account. It might influence the distribution operators' choices whether to use purchased services or not. The third characteristic that often rises up when talking about distribution business are the quite secured and closed information system interfaces. The systems are quite heavy and hard to adjust to the needs of a partnership network. Also the high quality standards, society's expectations of undisturbed electricity distribution and the officials' strong role in steering the development of the business set demands to purchased services and how to organize them. (Aminoff et al. 2009)

The recent study of outsourcing services in electricity distribution network industry (Aminoff et al. 2009) clarified the current state of using outsourced services in the business. It discovered that electricity network designing and planning, control room operations and customer services concerning technical issues are mainly done as in-house operations. The condition inspections of network components and customer services concerning commercial issues are mainly purchased from an independent business unit within own organization. Construction and maintenance services, warehousing and logistics, fault repairing, primary substation projects, automated meter reading and management, balance settlement, large scale meter roll-outs and condition monitoring of network components are operations that are mainly purchased from totally independent service providers outside own organization. (Aminoff et al. 2009)

The study also examined the partnership network models of purchasing services. It found mainly western and Japanese models with strategic network features. In the Japanese models there were only a one main supplier called "service integrator", which managed the whole supplier network. The western model was more common because the Japanese model was seen problematic when concerning the functionality of service

markets. Both of the found models also had features of a strategic network. For example there were a clear central organization, several parallel partnerships and quite tight and close cooperation between the foreman and suppliers. (Aminoff et al. 2009)

Aminoff et al. (2009) also examined the expected benefits and risks of using outsourced services in electricity distribution business. The main benefits that electricity distribution operators are expecting are easing of gaining additional resources, possibility to focus on core business, cost savings and possibility to exploit the best practices and know-how in the industry. According to the study the biggest risk that operators are afraid of is that the markets do not develop as expected. This means that there may not be enough service providers from which the network companies can choose their suppliers so that real competition occurs. Other recognized risks are that the suppliers are unable to meet the expectations of the operators or the aimed cost savings do not realize. Also the functionality of the information systems is seen as a noticeable risk. (Aminoff et al. 2009)

According to the study most of the electricity distribution operators are satisfied with the use of purchased services. Also all the set goals for purchased services were achieved within the first three years. The use of purchased services will increase in the distribution industry. Positive experiences from operators encourage other operators to use purchased services and more partnership networks will appear in this branch of business. Future prospects already show some challenges for the electricity distribution operators. Examples of these challenges can be increasing demands for the delivery reliability, online electricity consumption information and whole new kind of distribution network solutions for electric cars. (Aminoff et al. 2009) Organizing ones business with partnership networks can be a future solution to these challenges. As one can notice the electricity distribution business is quite unique. The central organizations buy high volumes of services from the network. The classical examples of material supply chain cannot be straightly applied. Niemelä (2002) states that the future comes with the service networks. The partnership networks are here to stay in this branch on business. The building, managing and developing them is the next step.

3. MANAGEMENT OF PARTNERSHIP NETWORKS

In today's networked economy boundaries between organizations have become fuzzy and business is made in a constantly changing environment. Think about tens and hundreds of partnerships, acquisitions and merging corporations, these all are everyday business. When compared to a more stable environment the difference is huge. A traditional industrial firm knows exactly where its boundaries are, what it produces and what kind of performance meters works best. Today's networked business creates a lot of indefiniteness, uncertainty and fuzziness to the business environment. Business environment is no longer a faceless complex. It is a network of different partnerships with no clear boundaries where everyone evaluates their success from their own starting points and with their own performance meters. So today's successful management demands a new kind of point of view to the relationship between an organization and its environment. (Ståhle & Laento 2000; Kankkunen et al. 2005)

The management of partnership networks is very challenging. The strength of an organization is in its partnership network and in the network's renewable and expansive power. At the same time, these features are the ones that make the organization difficult to manage. Tight management control of a partnership network does not enable birth of new innovations but without some kind of a management system the innovations never realize into a new product or service. (Ståhle & Laento 2000)

Someone could ask if it is at all possible to manage partnership networks successfully. This chapter presents the basic elements of the partnership network management.

3.1. Starting points

Management of partnership networks can be defined as goal-directed actions, which make sure that the needed investments and inputs to the network and to the central organization are obtained from each partnership within the network. Successful partnership network management requires a lot of company management's time and it causes noticeable costs. Yet, organizations rarely have systematic practice for the management. Most often the management is based on a feeling and just drifting from a situation to another. For example finances, operative processes and marketing budgets are under a tight control of company management but the partnership network management lacks systematic analyzes and strategic choices. (Kankkunen et al. 2005)

Kankkunen et al. (2005) studied the current state of interest group management in Finland. The organizations interest group includes customers, own staff, community, competitors and business partners. The result of the study was that the level of the management is barely satisfying. This result was equal regardless of the status or the size of the examined organization. The examined organizations felt that the central interest groups are recognized but there is no systematic management practice. Surprisingly the study also found out that defining goals of a certain partnership is not even felt important. Prioritization of different partnerships and analyzing the partnership's dependency relations is not done. The study also stated that the time when partnerships can be seen in organization's performance meters seems to be far away. But the successful organizations of the future will use wider and deeper knowledge of partnerships and interest groups in everyday decision-making and also in strategic steering. In these organizations management of partnership networks with versatile performance meters is the fundamental base of strategic choices and planning. (Kankkunen et al. 2005)

In order to succeed an organization must be compatible with its environment and able to manage its partnership network widely. In most cases, where the partnership management is recognized, it is included to another management system like quality management or environmental management. The basic models of quality thinking created in last decades are a good start to the management of partnership networks, although the thinking must be extended to the whole network and its environment. Actually many organizations see the management of partnership networks as an extension to the quality management. (Kankkunen et al. 2005)

The lack of management tools is probably one reason why the management of partnership networks is made without any certain systematic. Organizations need practical and general view tools. Partnerships are so versatile and networks so complex that a case-by-case management with any tools is impossible. The needed tools are more like guiding frames to the partnership that enables controllable and flexible management with strategy and principles. (Ståhle & Laento 2000; Kankkunen et al. 2005)

3.2. Challenges

As stated before, the management of partnership networks is very challenging. Some people even think that it is impossible to manage strategic networks where some of the relationships are not based on tight hierarchy and authority. The literature presents understanding self-organization, creating a strong self-reference, creating a partnership network's DNA and defining partnership network strategy as the biggest challenges of the management. Especially overcoming the challenge of defining the partnership network strategy is seen as a key factor to succeed.

3.2.1. Understanding self-organization

Information flood, dynamic business environment, different members, contradictory information, conflicting interests etc. creates complexity, turbulence and unexpected elements to the partnership network. In this kind of environment the management through linear control chains is unwise and practically impossible. Organizations must find a new approach and tools. The management of partnership network should not be tightly controlled. The organizations must have space and ability to react spontaneously in a turbulent environment. This spontaneous creates competitiveness, speed and innovativeness. Organizations must have plenty freedom of actions, time and support to create new, possibility and right to try and fail. Innovativeness and new concepts form through this turbulence and freedom when organizations start to organize themselves. This is called self-organization. If the central organization of the network gives enough space to its partners, it enables them to organize themselves in a most efficient way and ability to self-organize again when the environment and situations changes. (Ståhle & Laento 2000)

Understanding this self-organization is one of the four stated challenges in the management of partnership networks. The management should not be too tight in order to enable self-organization and the benefits from that. On the other hand, there must be some kind of management to define the frames of actions and to enable innovative ideas to come into practice. Tight control systems are familiar to today's company management but tools that enable management and self-organization within the network are a challenge. (Ståhle & Laento 2000)

3.2.2. Self-reference

Another management challenge is to understand the meaning of a strong self-reference and to create it. Organization's strong self-reference means strong profile and brand. Organization knows itself and can refer to itself. Strong business core is born from knowing one's capability, fundamental values and ability to compose future directions. The strong-self reference is important in partnership networks. It is a way to control the surrounding information floods and different relationships. An organization within the network without strong values and goals is incapable to make choices or prioritize. It can be mislead by another members of the network or the organization just drifts according to markets and environment from situation to another. (Ståhle & Laento 2000)

Within the partnership network organization faces many conflicting expectations and goals of other organizations. Management of the partnership network is impossible without having a strong self-reference. Through self-reference organization knows its goals, knows where to focus resources and then knows how to credibly manage and steer other partners of the network. (Ståhle & Laento 2000)

3.2.3. Partnership network's DNA

A strong core, a strong central organization, has the same kind of a meaning in a partnership network that DNA has in human biology. The information of DNA molecule is repeated in every cell and it is the fundamental code of the entire system. Even tough human body consists of millions of organisms, it is a complete and functioning system. The human DNA makes it possible by managing and organizing the whole system. The DNA is an interesting thought from the partnership network management perspective. The partnership network needs its own DNA, a fundamental code that directs actions in every cell within the network. In a turbulent environment the partnership network should be able to react fast, innovative but still consistently and according to a common strategy. The central organization, the manager, of the partnership network should create the network's DNA. Binding and steering information that comes from inside and is included to the every cell of the network. Like human DNA, this DNA is simple but appears in countless combinations creating a solid and well-ordered system. Creating this partnership network's DNA is the third stated challenge of the management. (Ståhle & Laento 2000)

In order to manage the partnership network it should know where it is heading, how it is going to reach its goals, what is accepted and what is not. It should also be able to place itself in proportion to others. By answering to this question we can sum up the partnership network's DNA. It consists of four parts: vision and objective, strategic focus, ethic code and role; see Figure 3.1. The vision and objective defines the short and long-term directions of the network. The strategic focus defines the most important emphasizes when reaching the goals. The ethic code includes the values and principles of everyday actions. The role defines network's position and tasks in proportion to others. (Ståhle & Laento 2000)

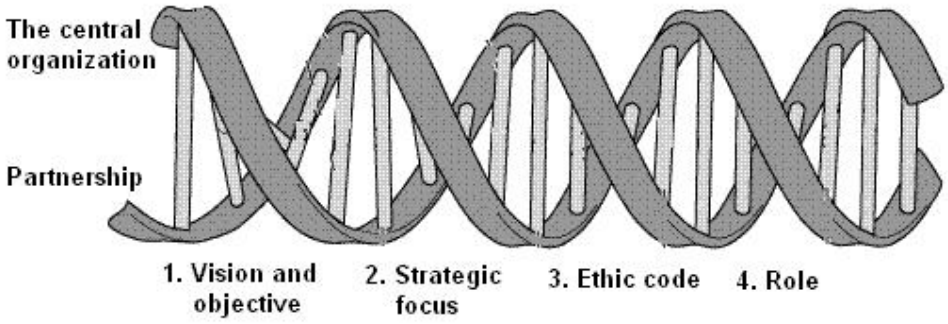

Figure 3.1. *Partnership network's DNA (adapted from Ståhle & Laento 2000).*

These four things do not include new and groundbreaking things. The organizations have defined these things earlier. The actual challenge is to transform this information to DNA. These things should not just be company management's information but they should be informed everywhere and repeated in every cell to become DNA that really binds and steers. After the central organization has created it's

own DNA, in able to manage the partnership network, it should define and form the DNA for everyone within the network. The DNA creates a double bond with every partnership, like in Figure 3.1. The double bond forms from the four things that the central organization has defined to itself and from the same four things that the central organization has defined concerning the partnership. For example the first DNA junction contains the central organization's vision about its own future and also the vision about partnership's future. This is how the partnership network's DNA is formed. The DNA works as a fundamental code that guides everyday actions in the partnership network and creates a foundation to its management. (Ståhle & Laento 2000)

3.2.4. Partnership network strategy

The most fundamental part of partnership network management is defining and executing its strategy. The strategy of the network is a part of the partnership network's DNA and it is derived from the vision of the network; see Figure 3.2. From the highest level down, the partnership network's actions are defined by values, vision, mission, objectives, strategy and individual operating plans. The vision is normally a target where the partnership network is after 10 to 20 years. Mission defines the network's purpose. The partnership network's objectives are defined according to the mission and they are tried to achieve with strategy. The strategy defines individual operating plans to achieve the objectives. (Niemelä 2002; Kankkunen et al. 2005)

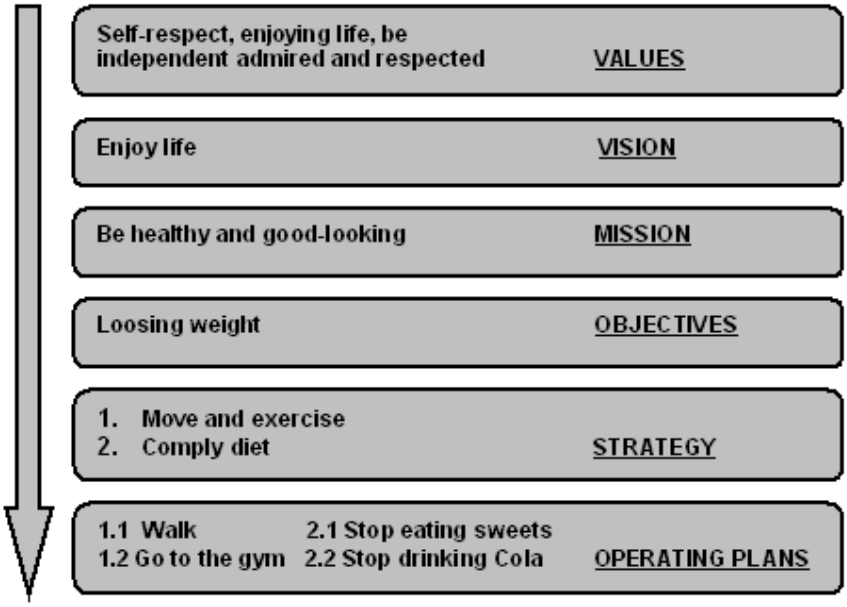

Figure 3.2. *Example of hierarchy of terms related to strategy (adapted from Kankkunen et al. 2005).*

The strategy defines the frames and choices to those individual operating plans that guide everyday actions. So in order to get the needed investments and inputs to the network and to the central organization from each partnership the network must have a

solid and common strategy. Taking this strategy into practice is maybe the biggest challenge of the management of partnership networks. Creating a strategy and taking it into practice in a single organization is much easier because there are fewer things to take into account. The strategy presents the networks future and the ways to get there so it is prerequisite for the development of the partnership network.

The partnership network strategy should be widely documented and informed to everyone. Not only to the partners but also to the network managers' own organizations so that everyone knows what is expected from the network now and in the future. It steers and focuses everyday actions. The strategy should enable open dialog and in that way it commits the partners and own employees and assures the steering effect. The realization of strategy should be measured and evaluated in order to constant development. The measurement also commits the members of the partnership network to the common strategy and helps to bring the strategy into everyday practice. These strategic measuring tools are examined in the chapter four. (Ståhle & Laento 2000; Kankkunen et al. 2005; Kaplan & Norton 2006)

3.3. Three levels of management

Kankkunen et al. (2005) separates three different levels in the management of partnership networks. This separation is very functional and successful. The three levels of systematic partnership network management are: management of individual partners, management of partnerships as a network and management of networks surroundings; see Figure 3.3. (Kankkunen et al. 2005)

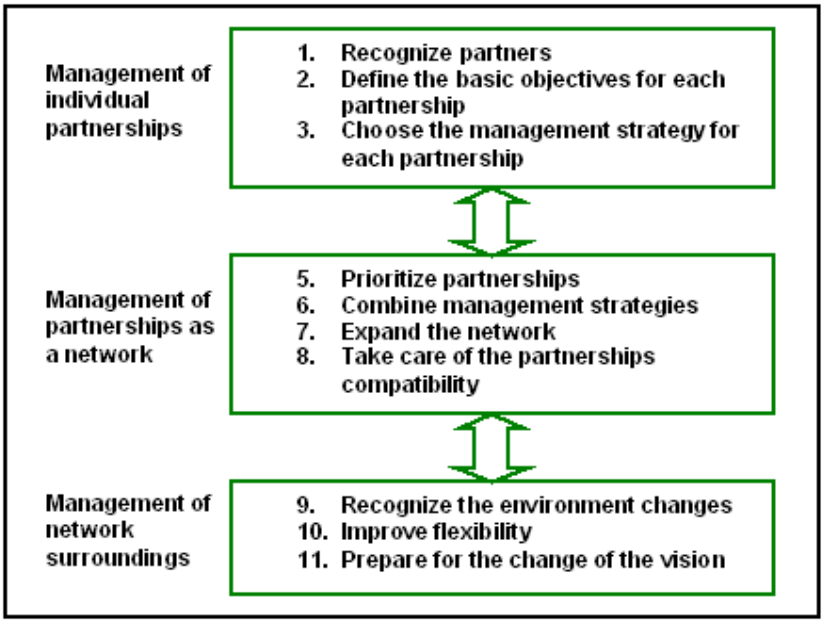

Figure 3.3. *The three levels of partnership network management. (adapted from Kankkunen et al. 2005).*

On the first level of the management one must start with recognizing the partners and defining the goals and management strategy for each partnership. On the second level the management perspective comes wider. One must prioritize the partnerships, make sure that the goals within the network are convergent and partnerships compatible. The third level of management observes the network's surrounding environment and how its changes effect to the partnership network and are there needs to re-organize. The management strategy of partnership network should cover all the three levels. These three levels are discussed more precisely in the following chapters. (Kankkunen et al. 2005)

3.4. Management of individual partnerships

The management of partnership network naturally starts from the management of individual partnerships and then slowly expands to a wider view. It is impossible to manage a whole network if one cannot manage a single partnership. The process must start with recognizing the partnerships. The manager of the network, the central organization, must know who its partners are and at which level partners they are. This is easier to say than do. Placing partnerships on a map or listing everyone that gives something to your organization is a good way to start. The most common error that organizations do while recognizing the partners is that they tend to focus on the most important partners and some self-evident partners are forgotten. Like logistic partner in most cases is very self-evident but forgetting it when designing a strategy or operation model can be a crucial mistake. (Kankkunen et al. 2005)

Defining the levels of the partnerships is challenging when done properly. However, it should be given emphasis because defining this partnership level is the most fundamental thing in the management of individual partners. It is the base for the management. Roughly said the different level partnerships are managed in different ways. Defining the level of the partnership should be systematic and the named levels should match with partnership strategy. The partnership levels used in this thesis were examined in chapter 2.3; Table 3.1 gives a review. The management of operational, tactical and strategic partners and the things to take into account will be examined in detail in the following chapters.

Table 3.1. *Different levels of partnership. (adapted from Ståhle & Laento 2000; Virtanen et al. 2002).*

	Operational partnership	**Tactical partnership**	**Strategic partnership**
Object	Lowering the costs, focusing on the core business	Combining of processes and work cultures. Reducing of overlapping actions	Integration of information capitals so that both parties achieve strategic advantages
Income	Cost savings, gaining of additional resources	Cost savings and increase of information capital	Reaching a new level of know-how or productivity
Base of the partnership	Clear contracts	Contracts, growing trust and intercourse	Contracts, strong trust, regular intercourse
Other features	Typical buyer-supplier relationship, low risks and computable profits	Exchange of information in a trusting environment. Constant evaluation and measuring.	Strong interdependence, high risks and profits
Duration	Short-term	Long-term	Long-term

After recognizing the partners and the partnership levels one needs to define the basic objectives for each partnership. These basic objectives guide the decision-making and daily interaction with the partners. The defining of the objectives should start from the ones that best assist fulfilling of the central organization's mission, vision and strategy. Still this defining should be done in interaction with the partners. It is important to listen and ask from the partners what things they see as worthy of pursuing. A study made by Valkokari et al. (2006) showed this clearly. They discovered that interaction with partners and allowing them to participate in the defining of partnerships' objectives improved the partners' commitment to developing of cooperation and operation models. Also these basic objectives should be clearly visible in partnership's strategy and performance meters. That is discussed in chapter 4. As well getting these objectives crystallized into an inspiring and illustrative form is useful in communications and public relations. (Kulmala et al. 2005; Valkokari et al. 2006)

After defining the partnerships' objectives one must choose and create the main management strategy for each partnership. This is based on the level of the partnership, the defined objectives of the partnership and its dependency relation. This will be examined next. (Kulmala et al. 2005)

3.4.1. Strategies

When choosing and creating the main management strategy for each partnership, one strongly influencing factor is the dependency relation between the central organization and its partners. The partnership can be in balance or other partner can be more dependent on another. An example of unbalanced partnership could be a small material supplier that is very dependent on a big buying customer when the buyer is slightly

dependent on the single material supplier. Different dependency relations are illustrated in Figure 3.4. (Kankkunen et al. 2005)

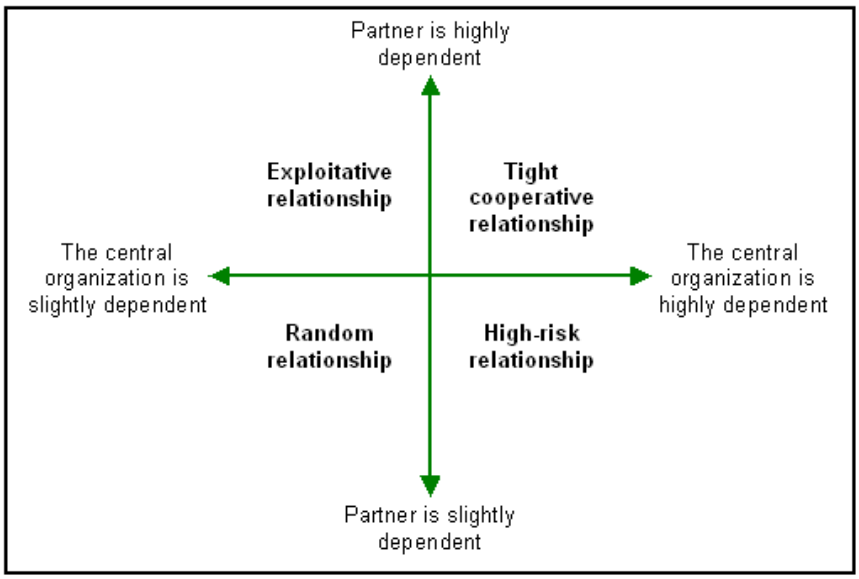

Figure 3.4. *Dependency fourfold table. (adapted from Kankkunen et al. 2005).*

If the central organization is slightly dependent and the partner is highly dependent the central organization can for example put pressure on the partner and force it to price reduction through price competition. The partner is in a bad position and the central organization can exploit it. These kinds of partnerships are typically operational and short-term. And instead of committing to a special development work within the partnership, the partner naturally wants to reduce its dependency and invests to elsewhere. (Kankkunen et al. 2005)

In the high-risk relationships the partner is less dependent on the central organization than the central organization is on the partner. In these partnerships the central organization does not have enough power to manage the partnership and it needs to secure itself from the possible risks that the partner can cause. The signification of the partnership is minor for the both parties in the random relationships. Neither is strongly dependent on another. No big investments are put into developing of the relationship. (Kankkunen et al. 2005)

If the partnership is important to both parties the partnership is typically tactical or strategic. Strong dependency relation enables tight cooperation and the investments put to developing of the relationships are protected because both parties loose if the partnership breaks up. Mutual investments instead of arguing about profits are the key to create competitive edge in the partnership network. (Kankkunen et al. 2005)

Defined objectives, level and the dependency relation of the partnership, all these affect when creating the main management strategy for the partnership. The management theory presents three different main strategies for the management of partnership networks: price, authoritarian and social management. Kohtamäki (2005)

presents these strategies extensively in his study. He uses the term steering mechanism. A relationship that is managed with price mechanism is based on price and competition. The central organization steers and manages its partners through price mechanisms. It forces the partners to add the value of its products and services or lower its prices by finding new improvements to existing solutions or by creating new ones. This steering price can be based on a market price, a defined value price or a price that is calculated from costs and negotiated contribution margin. (Kohtamäki 2005)

The authoritarian management of partnership networks is based on using rules and compulsions as a steering tool. These all are noted in the contracts, which are the base of authoritarian steering. The authority is highly affected by the dependency ratio of the relationship. Naturally it is easy for the central organization to use authoritarian steering in exploitative relationships. The social management is built on trust and communion. The steering of the partnership is done through personal social interaction in a trusting environment. The communion is based on a together defined vision, objectives and rules. This social management can be seen in tight cooperative relationships. (Kohtamäki 2005)

Kohtamäki (2005) also examined these management strategies widely in practice. He found that the best results were achieved when the management of partners is conscious and customized to every partnership. Also a purposeful use of social steering has given good results. All these three management strategies are simplified and appear at the same time. Combining them with different emphasis depending on the level, the objectives and the dependency ratio of the partnership gives an excellent start to define more specific management strategy for individual partnerships within the network.

The management of operational, tactical and strategic partners and the things to take into account will be examined in detail in the following chapters. However it is good to keep the whole picture in mind because all presented things are linked to the already discussed basic blocks of the management like for example recognizing the partnership's level and defining the dependency ratio and objectives of the partnership.

3.4.2. Operational partnership

The operational partnerships normally aim at cost savings and gaining of additional resources. The relationship is kept in a simple level and after it has been created the goal is to automate it as much as possible and no special resources are added afterwards. So the management of operational partnerships is basically management of cooperation mechanisms. (Ståhle & Laento 2000)

Ståhle & Laento (2000) define the following criteria for a successful operational partnership:

- Precise cost-awareness
- Skill to recognize a good partner
- Accurate pre-knowledge and pre-evaluation of partner's products or services

- Clear fact-based negotiations
- Clearly defined roles
- Clear contracts
- Functioning feedback system (cost and quality control and surveillance)
- Clear practice for information flows
- Systemized processes
- Following the partner's competitiveness in proportion to markets

A good pre-information about the partner is the base for a good operational partnership. One needs to focus on the partner's reliability, quality, availability and image. Carelessness when choosing a new partner can be an expensive mistake. The management of operational partnership is based on contracts. The contracts should be clear including roles, responsibilities, activities, sanctions etc. If the contracts are incomplete or unclear it will lead to expensive and time-taking negotiations. In general negotiations and interaction with operational partners should be based on facts. When talking about truly operational actions the customer must be able to demand clear things and the partner, the supplier, must have evidence about those things. The situation is different in more complex relationships where partners take risks in a trusting environment and they do not have clear facts where to lean on their decisions. (Ståhle & Laento 2000)

The management of operational partnership should be systematic as well as all the processes and information flows. A central tool in a successful management of operational partnerships is a functioning feedback system. It should be part of the contracts and able to evaluate the performance of the partner within its responsibility areas. Also the partner's competitiveness should be followed in proportion to markets. (Ståhle & Laento 2000) The operational partnership's management strategy is typically a mix of price and authoritarian management. But as Kohtamäki (2005) noticed in his study, when applying also social steering the performance level of the partnership improved. This could be done through this feedback system and analyzing it together interactively. If the operational partnership is wanted to develop into the next level the social steering should definitely be applied.

3.4.3. Tactical partnership

Because the aim of the tactical partnership is to learn new things, combine processes, reduce overlapping actions and connect work cultures, it demands deeper integration of know-how and does not work only a with contracts. In addition, it also needs trust and interaction. This changes the management. The management of tactical partnership should create this trusting, interactive and open environment and it should also create a commonly defined and documented vision, strategic goals and roles that steers the actions. Some things are naturally also included in contracts but the management cannot just be based on them. (Ståhle & Laento 2000)

Ståhle & Laento (2000) define the following criteria for a successful tactical partnership:

- Combining processes and overlapping actions
- Defining the frames of the partnership (vision, strategic goals, roles etc.)
- Defining own learning goals
- Intentional building of a trusting environment
- Interactive and open atmosphere
- Information systems
- Integration of information capitals
- Functional performance meters
- Getting the learned things into practice
- Constant and mutual evaluation of the partnership

The management of tactical partnership demands giving up the image where one is the supplier and one is the buyer. In the tactical partnership the business processes flow through both partners and the successful management should make clear for the both partners what is their role and that they see the whole picture. The management should enable criticism and questioning in order to develop the partnership and actions. It should also not be too strict and enable a space to develop. One goal of the tactical partnership is to learn new thing from the partners. Defining these goals beforehand helps discovering them and getting them into practice. (Ståhle & Laento 2000)

The information is much more indeterminate in the tactical partnerships than in operational ones. The management demands capability to handle documented and experimental know-how. Success is based on how well contracts and documents are handled but also how well the management is able to upkeep a constant social intercourse. The needed integration of information capitals is done by this social intercourse but also a functional information system is needed so that required information is documented and always available. (Ståhle & Laento 2000)

Perhaps the biggest challenge and key to success in the management after creating that trusting, interactive and open environment with tactical partners is to create a feedback and control system for it. In the tactical partnerships where processes are partly combined and actions are complex, no one can supervise and control everything that is happening or know if the partnership is developing into a right direction. The feedback system, quality control and logistic control should develop from an operative stage to a considerably deeper cooperation level. It should measure the realization of partnership's objectives, practical results and trends where the partnership is developing. Also when problems occur, the feedback system helps finding and understanding the deeper reasons for problems. The tactical partnership is a relationship that creates more than just direct economical profits and the management system should be able to notice those other things and multiply the profits in other partnerships. (Ståhle & Laento 2000)

3.4.4. Strategic partnership

In the strategic partnership parties work in true interdependence because strategic connection demands revealing of expertise or handing out significant strategic information to a common use. Partners are connected to each other's core competences, core processes and their relationship is very diversified, interactive and intensive. All this demands renovating of traditional management thinking, systems and tools. (Ståhle & Laento 2000)

Ståhle & Laento (2000) define the following criteria for a successful strategic partnership:

- Knowing the market field
- Organization's own internal partnership strategy
- Management and protection of information capital
- Efficient risk analyzes
- Control of internal knowledge
- Partners' common vision, values, strategy and principles
- Delegation of power through roles
- Strong leadership culture
- Common wavelength
- Flexible organization, low bureaucracy

The management of strategic partnership starts from knowing your partner. The central organization must know its strategic partner's strengths and weaknesses and be able to compare those in proportion to markets. By doing that one can define the whole role of the partnership in the market field and know its possibilities. Strategic partnership is a very vulnerable and risky relationship, but it has the biggest potential to the biggest profits. In order to successfully manage strategic partnership and gain these profits the central organization must have its own internal partnership strategy where the partnerships' objectives and borders are defined. The internal partnership strategy makes clear for everyone in the own organization what is done with partners, what is done by self and what it expected from the partners. In these strategic partnerships, the organization's borders are fuzzy so the internal partnership strategy makes them slightly clearer. Because strategic partnership demands openness and trust it also needs protection of own information capital. The partnership strategy should include the principles for drawing the border between this openness and protection. When managing these strategic partnerships one should see where the beneficial strategic possibilities are and work as open as possible in those areas but secure the information in other areas. This demands efficient risk analyzes to help the management. (Ståhle & Laento 2000)

Strategic partnerships are so complex and connected in many levels that information and knowledge is born in many places. Controlling this formed knowledge is also a big management challenge. The critical points are where the partner's

processes integrate. The most of the new know-how is born there but rarely documented. This is because the actions are complex and progressive. So the new know-how is also complex, born between people and impossible to be documented by operational manuals and documents. To avoid the information get lost it demands functioning information system, technical and social. Social information systems could be some kind of forums, reporting chains etc. in order to spread the knowledge in the own organization but also between the partnerships. This control and transferring of internal knowledge must be consciously organized in order to benefit from the partnerships results. (Ståhle & Laento 2000)

The management of strategic partners cannot be based on a strict control but mostly on giving space and freedom. It must allow the self-organization discussed in chapter 3.2.1 but also give the frames and borders. The keys to a successful management of strategic partnerships are efficient technical and social information management system and clear management and operating principles that are formed from partners' common vision, values, strategy and objectives. The successful management is also based on empowerment, delegation of power through roles, not through hierarchy and on a strong leadership culture. The strong leadership culture is needed when employees are given power through delegation, leadership must provide support to receive and use the given power. (Ståhle & Laento 2000)

A successful strategic partnership is possible only with partners that have a common wavelength. They must share the same kind of thinking where a win-win possibility is a bigger attraction than risky big profits. Learning and building the success factors of a strategic partnership during the partnership is too late. In order to manage strategic partnerships organization one must have established partnership strategies, flexible organization and internal partnership operational models. (Ståhle & Laento 2000)

Ståhle & Laento's (2000) list of criteria for a successful strategic partnership lack the feedback system for evaluating and measuring the partnership's performance. The feedback system is a necessity but creating a functional one to support the management is a big challenge. The feedback system must be as strategic as the partnership; just an operational system does not work. The feedback systems are discussed in chapter four.

3.5. Management of partnerships as a network

The second level of the partnership network management presented by Kankkunen et al. (2005) is the management of partnerships as a network. The management perspective moves up and becomes wider from just observing individual partnerships. One of the first things to do is to prioritize the partnerships. Focusing the resources and investments in the most efficient way according to the prioritization is one of the main tasks of the management. If the prioritization is not done resources are easily wasted on wrong partnerships and someplace where they do not bear fruit. The prioritization

principles can vary a lot. For example, the central organization can invest on growing future partners or old strategic partners where it can get the fastest payback. The prioritization must be done according to the strategy and it demands a good knowledge of the partners and of the whole network. (Kankkunen et al. 2005)

After the prioritization of partnerships, the manager, the central organization of the network, should combine the partnerships' management strategies. In addition to that, as the manager chooses a one basic management strategy for each partnership it also should be able to combine those management strategies and find the best features from each strategy. One good example of this is the Japanese car manufacturer Mazda. It combines price management strategy and long-term cooperation strategy. Mazda uses two selected suppliers for car seats. It orders one third of seats from each supplier. This share is enough to make sure that the suppliers have interest to develop their partnership with Mazda. Mazda follows and evaluates the suppliers' performance and gives the remaining third to the one supplier who has performed better in past car models. This remaining third stimulates the suppliers to compete and develop their performance according to the wishes of Mazda. This competition also makes sure that Mazda can order its seats from another supplier if the other supplier tries to raise its prices when the cooperation develops. This kind of combined management strategy is called volume management. (Kankkunen et al. 2005; Kohtamäki 2005)

Naturally, in the management of partnerships as a network it is crucial to understand and see the whole network. The partners are already recognized but to be able to manage the whole network it is important to see the crossing links between the partners. The central organization should know these links and ensure that the organizations within the network are compatible. Many partnership networks have collapsed because of conflicting interests and discordant partners. To ensure the compatibility, two things need to be defined: what is the purpose of the partnership network and what are the bonding factors that join the partners together. (Kankkunen et al. 2005)

Expanding the network is also one thing to notice in the management of partnerships as a network. Expanding the network with compatible partners that bring new value to the network makes it easier to get the needed resources and to support to achieve goals. Not letting the partnerships network get to a standstill keeps the development going and improves the competitiveness of the network. (Kankkunen et al. 2005)

3.6. Management of network surroundings

The third level of the partnership network management is the management of network surroundings and its impact on the network. The surrounding of the network is not stable; it is turbulent, constantly changing by the affect of economical, political and cultural dynamics. Managing these changes in the environment and their influences to the partnership network happens in three stages. Firstly, the central organization must

sense the changes, the earlier the better. Secondly the organization and the partnership network must be able to react to change and even act premeditated. Thirdly organization and the partnership network need to have readiness for a change. Typically the changes do not start in the middle of the partnership network but rather in the edges of the network where the partners are. So the best signals about the changes come from the partners and the central organization must know how to listen and use that knowledge. That is to say, in addition to internal forecast tools the central organization also needs partners' opinions how they sense the changes in the environment and the partnership network's capability to react in needed way. Taking the partners along to the recognizing process also increases their commitment and focus on the right things. (Kankkunen et al. 2005)

So that partnership network could maintain it operations in every situation the relationships with partners should be flexible. The flexibility of the relationship decides what happens to it when the environment changes. Flexible relationships are more lasting in big changes. Those are more adaptable; they change when the environment changes. One management challenge is to improve this flexibility within the partnership network. The solution is to build more flexible long-term relationships that are based on trust and mutual values and principles instead of building stiff contract-based operational partnerships. (Kankkunen et al. 2005)

When talking about changes that can modify the whole branch of business just flexibility is not enough. The central organization must prepare to be able to renovate its strategies and vision. It has to re-consider with whom it wants to create the partnership network. For example, people used to buy flight tickets from travel agencies but today most of the tickets are bought straight from the Internet. This has changed the networks between airlines and travel agencies. Now the travel agencies are forced to seek a new role. (Kankkunen et al. 2005)

3.7. The stage of management in electricity distribution business

The study of outsourcing services in electricity distribution network industry (Aminoff et al. 2009) clarified the current state of using outsourced services in the business. The study did analyze the stage of management of these outsourced services very slightly. This reflects well the situation in the business. Using the purchased services is still quite new to the business so the main focus is still on how to outsource not on how to manage the partners that are providing these services after outsourcing.

Aminoff et al. (2009) found out that the electricity distribution network operators think that purchasing skills and know-how are the most significant things in a successful purchasing. Following, developing and managing the purchased service were seen as parts of these purchasing skills. The studied operators acknowledge that the management is crucial and it should be given enough competent resources. One can find many examples where well prepared purchasing have failed result in bad management

of service providing partner. The studied operators' management cornerstones are performance meters that have been written to contracts. The management is based on following them and giving regularly feedback about them. The development of partnership is done constantly in mutual interaction and with common development projects. Interaction with partners is created with operational monthly meetings and more long-term planning meetings. Also normal work inspections and auditions are done. (Aminoff et al. 2009)

Aminoff et al. (2009) also studied the service providers' opinions about the network operators' management. The service providers wished more punctual, transparent and expectable management. They also hoped more mutual development of the partnership because it cannot be just another's responsibility. They see that the management should be well considered and also notice the factors that influence on the business of the service providers. Like for example seasonal variation of ordered works and tight schedules represents buyer-centered thinking. (Aminoff et al. 2009)

The partnership networks are relatively young in this branch of business so the management is not so developed; it is typically done aside on the other things. The study made by Aminoff et al. (2009) gives the feeling that network operators know the significance of the management for the success of the partnership network but there is no developed systematic for it. The study does not reveal how many distribution operators have these performance meters and systematic interaction.

There is no established practice and well-known tools to manage partnership network of service providers. The theories presented in this thesis are mostly from the process industry where supplier partnership networks have existed longer but the same kind of things can be, and should be applied to this business in order to succeed in the management of partnership networks. Same principles apply and some electricity distribution network operators have noticed this and hired purchasing experts from other business branches in order to learn and have new perspective.

4. MEASURING SYSTEMS FOR PARTNERSHIP NETWORKS

To be able to successfully manage individual partnerships and whole partnership networks one needs some kind of a measuring system. The measuring system is seen as the most important management tool when working with partnership networks. The system should be able to measure the performance of the partnership network in different levels and it should work as a functional feedback system and as a strategic steering tool. Partnerships are so versatile and networks so complex that a case-by-case management with any tools is impossible. The needed measuring system builds like guiding frames of the partnership that enables controllable and flexible management with strategy and principles. (Ståhle & Laento 2000; Kankkunen et al. 2005)

Building a functional measurement system is also seen as one of the biggest challenges in the partnership network management. Especially in business branches that are critical to society, like electricity distribution, ensuring the quality of purchased services is crucial. However, there is no established practice what things must be followed and measured and what things must be included to contracts when agreeing about quality of service. There is either no well-known practice what measurement tools can be successfully used as a strategic steering tool. This situation is common in many different business branches and the lack of these measuring management tools is probably one reason why the management of partnership networks is typically made without any certain systematic. (Ståhle & Laento 2000; Kankkunen et al. 2005; Aminoff et al. 2009)

The measuring systems should be seen as a part of partnership network management and that is the point of view in this chapter. The chapter presents the basic elements of these measuring systems and the main focus is on a balanced scorecard but also a couple of other acknowledged systems are shortly presented.

4.1. The roles of the measuring system

The meaning of a measuring system is to be a management system that enables bigger return-on-management. With the help the of management system the organization's management can more easily and with less constant focus steer the organization's processes towards wanted directions. The measuring system should be used as a strategic management system for a partnership network. With the help of the system a strategy is communicated to the partnership network and transformed from paper to action. It is said that in most cases organizations' problems are not caused by bad

strategy but rather by the fact that the implementation of the strategy has been weak. The meters in organizations' measurement systems are often alike, even though the chosen strategies are different. This shows that the measurement systems are not developed from the organizations' own needs. A functional measuring system describes the chosen strategy and from a well-planned system one can even conclude the organization's strategy. (Kankkunen et al. 2005; Malmi et al. 2006)

Measuring systems have traditionally been build around already existing operative and financial meters. That is because organizations have always followed their financial key figures and production processes very precisely. But one must realize that the meters must be essentially different when talking about a strategic measuring system that is used as a tool to manage individual partnerships and in that way to steer the whole partnership network. Successful organizations measure financial and operational key figures but also other parameters that are important to their efficiency and performance. These other parameters are parameters that actually steer the actions not just follow them. (Kankkunen et al. 2005; Malmi et al. 2006)

The tasks of a measuring system can be divided into result functions and process functions. Traditionally measuring system is seen only as a result function where the gathered information is used as support for decision-making. The information from measuring system is analyzed after operations and the needed adjustment is done for the future operations. As a support to decision-making the measuring system can be used to controlling the crucial parameters, evaluating operations, learning and questioning the functionality of the strategy. The process functions of the measurement system mean the tasks that steers the operations anticipatory, the tasks that are influenced by only the existence of the measuring system. Examples of these can be to clarify the strategy and to motivate the partners and their employees. The following chapters go deeper into these results and process functions of the measuring system. (Kankkunen et al. 2005)

A measuring system is also a great tool for management of change. In the beginning of the change process one defines the operations that are crucial to getting the change done. Then, one creates meters and target levels to follow the execution of the change. The meters clarify the objectives of the change to partners and visualize their roles in it. This helps dramatically the execution of big changes. (Kankkunen et al. 2005; Malmi et al. 2006)

4.1.1. Supporting decision-making

The measuring system as a support to decision-making can be divided into three different roles. These are controlling the crucial parameters, evaluating operations and questioning the functionality of the strategy. The meaning of controlling the crucial parameters is to constantly measure and observe key-parameters that are crucial to the performance. These kinds of meters give an advance warning if some operation is running into problems. Having a performance level under the target level is unacceptable and in some cases punishable. Reporting these meters is revealing of abnormalities. (Kankkunen et al. 2005)

The purpose of evaluating operations is to regularly evaluate the long-term profitability and development of operations. These kinds of meters give a picture of partner's and partnership network's physical condition, for instance is every operation necessary, beneficial and developing in the wanted direction. The third role of the measuring system as a support to decision-making is the questioning of the functionality of the strategy. With properly selected meters one can follow the realization of the individual partnership's strategy and the whole network's strategy. If the selected strategy does not realize one must change the actions or come up with better strategy. (Kankkunen et al. 2005)

4.1.2. Anticipatory strategic steering

As mentioned before, the traditional financial and process meters compare the produced results and the wanted results of processes. When measuring the results, the adjustment to actions can only be done afterwards. Delay from the start of the process to the end result can be so long that it is too late for the adjustment. The time-windows are small in today's competitive business. That is why the measuring system needs meters and measurable parameters that steers the actions anticipatory towards wanted direction according to strategy. (Kankkunen et al. 2005)

Old truth says that you get what you measure. The measuring system influences strongly on the partners' behavior. They focus on the things that are measured and in many cases just the existence of the measuring system improves the partners' performances. A key to the anticipatory strategic steering is to motivate partners and clarify the strategy to them with a measurement system. That is why if they see something that needs to be adjusted along the processes they know how and to what direction to adjust it. In order to achieve this situation, the partnerships' and the partnership network's strategy should be created interactively with partners giving them an opportunity to give their own propositions to strategy. And in the end, partners should participate and commit themselves to made decisions. (Salomäki 2003; Kankkunen et al. 2005)

Just the existence and the using of the measuring system communicate the objectives and values of the partnership network to its members. By transforming the strategy to practice and connecting that practice to a reward system, the measuring system creates understanding and commitment among partners. And that was the key to anticipatory strategic steering. The situation where higher-level strategic objectives are brought down to meters for partners and the meters have this anticipatory strategic steering affect is achieved through three mechanisms. The first one is a communication and education program. The partners' understanding about the partnership's strategy, the whole partnership networks strategy and about the needed actions to execute the strategy should be ensured with intentional program. The second mechanism is setting the objectives and target levels. After the basic understanding about the strategy is achieved, the higher-level goals must be transformed to partner's own measurable target levels. The last mechanism is connecting the partners' meters and target levels to a

reward system. The final commitment is achieved with this reward system but it should be connected to the measuring system after the measuring system works assuredly. Rewarding is a powerful steering system so wrongly launched it might encourage to unwanted operations. (Kankkunen et al. 2005)

4.2. Avoiding the pitfalls

There are some pitfalls that anyone who is creating or developing a measuring system for partnerships within the network should be aware of. Many organizations have fallen in these pitfalls and gone through the hard way because of their mistakes. So using their experiments one can take the beeline to a successful measuring system. The biggest mistakes have been meter's poor connection to strategy and inefficiency in using the measured information in management.

The creating of a measuring system should start from the strategy and from thinking the purpose of the system. The strategy and measuring system must be compatible. The most important strategic objectives of the partnerships and the network should be seen in meters. By not having that, the selected strategy will not lead to objectives and actually the measuring system can do harm for it. The purpose of the system should be derived from the management needs, if there is a need for operative control or strategic steering. That decides the design of the system. Wrong design for wrong purpose does not work. The measuring system should as well be able to develop along with the strategy. Even though the trend meters are functional, organization must change meters when the strategy or the environment changes. The measuring system must be flexible so that it does not prevent the organization to change its strategy, although the changes must be done methodically and perseveringly. (Kaplan & Norton 1996; Kankkunen et al. 2005; Malmi et al. 2006)

The measuring should be started early in order to enable learning. The measuring system is an iterative process that demands learning from its creators and users. A good way to test the meters is to use the history data. Then the question is if we could have been able to notice these events before with this measuring system. The target levels of the meters should be possible to reach but work as an incentive. Too easy target levels do not stimulate development and impossible levels will kill the motivation. Also, the target levels should be analogy to the strategy. When reaching the targets the strategic objectives are achieved. The meters should not be connected to a reward system until the meters work really in practice. Rewarding is an efficient way to find all the loopholes and partial optimizations but then it is too late. (Kankkunen et al. 2005; Malmi et al. 2006)

One must be careful when combining the measured information. For example index meters that are combined from weighted averages of other meters are simple but they can loose information. Bad results somewhere can be missed if some other good results cover it. Those who know the origins of the information and purpose of the meters should do the combining of the measured information. Overall one must always

have the meter relations and number dynamics clear in mind. Too complicated and too many meters including measuring system produces a lot of information but it can darken the origin and the purpose of the measured data. Simplicity prevents the measuring system from turning into an IT-project. Simplicity of the measuring system and its focus on the right things help everyone to understand the operations priority and dependency relations. Then it works as an effective strategic steering tool for partners in every employee level. (Kankkunen et al. 2005)

Measuring observes the past; the challenge for measuring system is to anticipate future development. The measuring system must include anticipatory strategic steering meters but also meters that support decision-making. The meters must be in balance. The measuring system should also include meters from many areas but not from too many. It is an optimization between conflicting interests but the most important areas and areas that need to be development are the ones to include to the system. (Kaplan & Norton 1996; Kankkunen et al. 2005; Malmi et al. 2006)

The measuring system highlights some things and reduces the weight in some things. When choosing the meters, one must make sure that they are chosen according to the strategy, not according to personal interests of the managers. When the decision to create a measuring system is done the drive and devotion to the project is intense but when the measuring has started the project is easily forgotten. As said before the system is an iterative process and developing and monitoring it must not be forgotten. (Kankkunen et al. 2005)

4.3. Successful measuring system

A key to a successful measuring system is naturally to avoid the mentioned pitfalls but there are also some other things that one should bear in mind. Kankkunen et al. (2005) have defined five elements of a successful measuring system. They call these five elements as ABCDE-model.

The letter A comes from alignment. The meters must be analogical with the strategy and the critical factors that have influence on reaching the objectives. In a successful management an individual strategy and objectives are defined to every partnership. Naturally this defining must be analogy to the strategy and objectives of the whole partnership network. This leads to a situation where the meters of the measuring system should be different with different partners. At least the level of the partnership should be seen in the meters. In an operational partnership meters are naturally more operational than in a strategic or tactical partnership. The tactical and strategic partnerships create more than just direct economical and operational profits so the measuring system should be able to measure and steer the success and development of the partnership in a deeper level. (Ståhle & Laento 2000; Kankkunen et al. 2005; Kaplan & Norton 2006; Malmi et al. 2006)

The letter B comes from balance. The meters should be in balance. The measuring system should include hard operational meters and soft developing strategic

steering meters. There should also be long-term and short-term observation time meters and the meters should concentrate on different subject areas. The situation when the meters are rightly balanced, depends strongly on the level of the partnership, the phase of the partnership's life cycle and the chosen management strategy. For example strategic partners have more soft developing meters because the processes are usually so complicated and long-term that a covering operational measurement is impossible. With operational partners, one has more simple and short-term processes so the meters can be more operational and the lagging evaluation and adjustment is enough. But one must still keep the balance in mind in order to develop the operational partnerships with strategic development meters as well. (Kankkunen et al. 2005; Kaplan & Norton 2006; Malmi et al. 2006)

Cascade is the letter C in the ABCDE-model. It means introducing and taking the measuring system to the partners. The meters should be derived from the higher-level objectives and meters. The measuring system creates a common language to the partnership and enables conversation about rising matters and creates a ground for a fact-based management. In the strategic partnerships its strategy should be created in interaction together so creating the meters also together is a natural continuation. This should also be done in other level partnerships because creating or at least discussing and defining the meters together increase the partner's commitment and clarifies the common goals. In examples, where the central organization has increased the social interaction and took the partner along to define the meters, the results have improved considerably (Kohtamäki 2005). Also, the interaction when creating the meters enlarges understanding of partner's processes in both ways and that is never a disadvantage. (Kankkunen et al. 2005; Kaplan & Norton 2006; Malmi et al. 2006)

The letter D comes from deployment. The measuring system must be used in the organization. There is no point to create a system and then not to take the full advantage of it. The measuring system should be used in daily actions to support decision-making and management. The first analyzing of the measured data should be done there where the best knowledge of the data's nature is. At its simplest, the analyzing is based on recognizing performance levels, trends and variance. The performance levels can for example be compared to target levels, past performance, competitors' or other partners' performance levels. The managers should define what kind of analyzes they need in addition to the raw measured data. Then they have the best starting point to use the system to support their decision-making and finding causal connections. (Kankkunen et al. 2005; Kaplan & Norton 2006; Malmi et al. 2006)

The last letter E of the ABCDE-model comes from evolvement. A successful measuring system is constantly evolving and adapting according to the demands of the strategy and business environment. The true challenge is to develop and find those anticipatory strategic steering meters. These meters are based on causal connections. By monitoring the lower level signals one tries to predict the influences on the higher level. (Kankkunen et al. 2005; Malmi et al. 2006)

4.4. Balanced scorecard

Used strategic measuring systems differ from each other by their point of view. They include different assumptions of what the key factors to organizations' success are and how they are causally connected. But they all include the principle that in order to be successful organization must follow more than just financial indicators. Also all the strategic measuring systems include same three fundamentals. Firstly, focusing on the essential, meters that are developed from the strategy directs the focus on the right things. Secondly, balance, organization's success is a combination of different factors and all of these must be followed and developed equally. Thirdly, integration, measuring system increases congruent behavior towards common objectives. (Kankkunen et al. 2005; Malmi et al. 2006; Kaplan & Norton 2006)

The most well known this kind of a strategic measuring system is Balanced Scorecard (BSC) that Kaplan & Norton presented in 1992. The BSC was born when the goal was to create a measuring system that would tell how the organization is developing in so called soft, long-term and immaterial factors. The original BSC divides meters to four perspectives that are financial, customer, internal process and learning and growth perspective. In all these perspectives organization must define objectives, meters and the meters' target levels. The objectives must be derived from the strategy and tell what the organizations want to happen. The meters must describe if the organization is reaching the objectives and the target levels must tell when the objectives are achieved. Also, the meters must be in balance when looking at the timeline and the subject areas. (Kaplan & Norton 1992, 1996, 2006; Kankkunen et al. 2005; Malmi et al. 2006)

The BSC have all the features that this chapter has presented for a successful measuring system to use as a management tool. The BSC is also a flexible system that can, and actually must be customized to every need. Totally different perspectives or different approaches and emphasizes to the original perspectives create different BSCs. In recent years the BSC has developed to a true strategic management system and it is seen in many forms. Today almost every measuring system that includes those soft anticipatory strategic steering meters is called as BSC. When organization is creating the BSC to meet its needs, it must carefully define what kind of a customization works for the best, so knowing the principles of the original BSC gives a good start. These principles will be examined next. (Kankkunen et al. 2005; Malmi et al. 2006)

4.4.1. Principles

The original Kaplan & Norton's BSC has four different perspectives and the scorecard's meters represent those perspectives. The first one is the financial perspective. Organizations have always followed and measured their financial key figures and following them is a natural part of BSC. In the end, the purpose of corporations is to create profits to its owners. These meters describes how well economically the strategy has worked earlier and, on the other hand, what the goals that the organization tries to

achieve with the strategy and other strategic meters are. Maybe the most well known financial hard meter is return-on-investment (ROI). The risks measuring meters are often included to the financial perspective as developing soft meters to balance the perspective. (Kaplan & Norton 1996)

The second perspective is the customer perspective. It contains two kinds of meters that can be called basic meters and customer promise meters. The basic meters are quite alike in different organizations like for example market share, customer satisfaction, number of new customers etc. The customer promise meters answer the question what the organization should offer to its customers in order to success in the markets. A good acid test for these customer promise meters is to think if they are suitable for other organizations. If they are, then they are too lightly defined. (Kaplan & Norton 1996; Malmi et al. 2006)

Internal process perspective is the third original BSC perspective. Its meters measure the processes that are crucial to the success in the financial and customer meters. Depending on the strategy the measured processes can vary but the focus should not only be on operative things like production process. Many organizations have got impulse to create a whole new process like innovation process for new services and started to measure it in order to develop. (Kaplan & Norton 1996; Malmi et al. 2006)

The fourth and the last perspective is the learning and growth perspective. The financial, customer and internal process perspectives define the factors where organization must succeed in order to prosper. The measured things in learning and growth perspective are the things that enable the organization to reach the goals of these three other perspectives. The original BSC sees things like human resources, information systems and the organization's operation models as measurable things in this perspective. (Kaplan & Norton 1996; Malmi et al. 2006)

As mentioned before, an organization that is creating its BSC must not just copy the four original perspectives. New perspectives should be chosen or the original ones modified so that the measuring system meets the organizations own strategic needs. Most typical new perspectives are employees, resources and finance, influencing to the business environment, processes and design, renovating and working capability. Defining the perspectives can be done before or after creating the meters. The perspectives just make sure that strategically different areas are noticed and the scorecard is in balance. Also it does not matter in which perspective the meters are included but it should be done according to the strategy and emphasis. A good example of this is placing a delivery punctuality meter to customer perspective instead of classically putting it straight to internal process perspective. This emphasizes the matter and the organization starts to think deeper what do they need to develop and perhaps create another internal process meter that has influence to the delivery punctuality. (Malmi et al. 2006)

In addition to these four perspectives, the balance of the meters is another fundamental principle of the BSC. The meters should be in balance in many proportions. The balance should be between financial and non-financial meters, lagging

and leading indicators, long and short-term meters, internal and external meters and easily measurable and difficulty measurable meters. It is the same thing with the balance, an organization that is creating its BSC must not just blindfolded try to find the perfect balance but to do it according to the strategy and emphasis. (Kaplan & Norton 1996; Malmi et al. 2006)

4.4.2. BSC for partnership networks

Originally, the BSC was developed to organization's own needs to measure the organization's development and performance. The original BSC did get a lot of criticism about the fact that it does not have perspective to all interest groups for example to suppliers or surrounding society. In recent years, the BSC has spread out to measure external partners but they still are more like key performance index (KPI) BSCs that aim at improvements to costs, quality etc. The KPI meters are lagging score meters and they do not represent well the chosen strategy. The KPI scorecards miss opportunities to align partners' processes and their human and information capital to enhance partnerships' performance. The solution is to create a strategic BSC if the central organization wants its partnerships to develop, create innovations and help to provide more complete solutions to its customers. (Kaplan & Norton 2006; Malmi et al. 2006)

When the organization builds the BSC with its partners, it enables the managers to reach a mutual understanding about the level of the partnership and the objectives for the relationship. This creates understanding and trust, reduces trans-action costs and minimizes the possibility to conflicting goals. The BSC also works as a clear contract, which enables the measuring of the partnership's performance. Without the BSC, the contract focuses only on financial meters like price and costs. The BSC provides a much more general contractual mechanism that allows for example service, timeliness, innovation, quality and flexibility to be incorporated into the relationship. Even in the most operational partnerships, that have purely low total costs strategy, having a more broadly based BSC would include objectives for the partner to develop the human and information capital which would improve the partnership. Also the BSC should have meters that measure how well the partner is innovating and how the cooperation is working in order to create new value beyond the process quality meters. That is the key to the competitiveness in today's business (Kaplan & Norton 2006)

The BSC has developed a lot in recent years but it is still developing and transforming according to different needs, for example a better tool to serve the needs of the management of partnership networks. One good example of this development is value driving scorecard (VDSC). In addition to the BSC's perspectives it divides the meters to energizers, enablers, value drivers and outcomes. This division clarifies the causal connection between the meters and makes the strategy even more understandable. In order to succeed in the outcome meters one must perform well in the previous meters. Also the BSC's perspectives develop constantly. The biggest potential is in the learning and growth perspective, which is still quite indefinite. The

customization of the BSC and its perspectives is increasing and new variations rise now and then. That is right; the perspectives should not be separate but reflect the organizations business environment and strategy. (Kankkunen et al. 2005; Malmi et al. 2006)

The organizations are also varying the BSC's meter depending on the situation. That is also a good development direction because the meters do not have to be static and they can be used to put focus on current issues. That serves well the needs of the partnership network management. The central organization can have different meters and different weightings depending on the development needs of the individual partnership. (Kankkunen et al. 2005) The balance of the meters is also an interesting point. It would be interesting to know if there is correlation between the meter's balance and the branch of business or if the balance is purely dependent on the strategy.

The measuring system is a great tool to communicate the strategic objectives to the lowest level of the own and partners' organizations. The meters put those strategic objectives to a more practical and understandable form. That is the base for strategic conversation where the whole partnership network can participate and the measuring system is no longer seen as a control mechanism. Some people see that, thanks to the measuring systems, the organization's strategy is having a same turning point that happened to quality earlier. Strategy is no longer just in the hands of few but everyone is involved, creating or at least executing it in such way that they see their role in the whole. (Kankkunen et al. 2005) As a mark of that, a new management system called total performance scorecard (TPS) is rising on the base of BSC. The TPS-model is based on a process, which starts with setting personal goals that are afterwards balanced with organization's goals. (Rampersad 2004)

4.5. Other existing systems

The most well known measuring system that highlights more than just financial factors is definitely the BSC but there are also some other systems. For example British retail chain Saisbury measures the manufacturers performance level with 52 open, self-reported questions from three different categories that are readiness, consumer focus and operations. The readiness section includes questions about the manufacturer's ability to share and receive information and feedback, to make business decisions etc. The consumer focus section includes questions about the manufacturer's capacity to support the retailer promotions, to introduce new products etc. Questions in the operations section explore the manufacturer's capacity to develop a joint supply-chain strategy. The questions can be as follows: Is there a detailed analysis of the costs in the total supply chain? Is in-store implementation of new products-launches actively monitored? Are there agreed procedures in place to rectify delivery issues? The manufacturers can choose their answers from no/never, limited, progressing or yes/always. By answering the question the manufacturer discovers its development

needs and the retail chain can monitor the development in these areas. (Kaplan & Norton 2006)

Another interesting example could be definitely used in developed partnerships within the partnership network. Traditionally the central organization, the customer, has defined the meters for its suppliers. Underwater installation company Rockwater Company has reversed this process. Rockwater's new strategy was to cherish long-term, value-adding relationships with its key customers. This strategy was radical in the construction industry where the business was always awarded to the lowest bidder. Rockwater had identified several of its leading customers that wanted to deeper their relationship with the contractors. The goal was to lower the total cost of constructing and installing. For each customer that expressed an interest in such long-term partnership, Rockwater discussed a list of sixteen attributes that would characterize the working relationship on a project. The sixteen attributes represented five different categories: functionality, quality, price, timeliness and relationship. Rockwater asked each customer to select which of these attributes are the most important and prioritize them. Monthly, each key customer scored the Rockwater's performance in these attributes. Rockwater included the attributes to its own measuring system and, by that way was able to customize its services according to the wishes of the customer. (Kaplan & Norton 2006)

This development, where the measuring process goes from the partner to the central organization, will increase in the future, at least in developed strategic partnerships. The central organization can ask the partner to design its own meters but the meters must describe the commonly created strategy. Also, the measuring is transferring to the partner. The partner must show its customer how well it is performing and only the wanted development direction comes from the customer.

5. PARTNERSHIP NETWORK OF VATTENFALL NORDIC DISTRIBUTION FINLAND

Vattenfall Nordic Distribution Finland (VNDF) is the second biggest electricity network company in Finland with its 385000 customers. The length of the electric line per customer is approximately 160 meters. The partnership network of VNDF is unique in this branch of business. It can be said that VNDF has taken its actions deeper into the partnership network than any other electricity network company. For example VNDF has outsourced all its electricity network construction and maintenance. These services and many others are purchased from the partnership network. VNDF is pleased with organizing its business with partners. Though, the operating in the partnership network demands constant management, influencing and developing.

One of the objectives of this thesis was to roughly sketch the partnership network environment of VNDF and compare it to the theories. This chapter presents the partnership network environment of VNDF, defines its typology and outlines what the different levels of partnerships denote between VNDF and its contractor partners. The purpose of all this is that, the management of partnership networks starts with recognizing the partners and the levels of the partnerships.

As mentioned in the introduction, this thesis focuses on the VNDF's contractor partners and more on the annual contractors and the partnership network that they form. In other words, when talking about the partnership network of VNDF in this thesis, the contractors are meant.

5.1. Background

VNDF has totally outsourced the construction and maintenance of electricity network, fault repairing and service functions to its contractor partners. Service functions are services that are offered to customers like cable location and tree felling assistance. Also execution planning of works is almost totally outsourced to contractors. Electrical planning of works is mainly carried out internally but can be purchased from the contractors, as well. So, the partnership network of VNDF has formed through outsourcing.

VNDF's leading motive to outsource, create a partnership network and purchase services from the partners has been the creating of true service providing market for this branch of business. The demand creates supply. With the functional markets VNDF can achieve its other objectives that have been possibility to focus on core business, cost savings, improving productivity, ensuring and improving the fault repairing and

guaranteeing the level of services to customers. In addition, one objective has been that by stimulating partners to develop their actions VNDF gets the possibility to exploit the best practices and know-how in the industry. These are basically the same things as in the recent study (Aminoff et al. 2009), which is not surprising because VNDF has been one of the influencing participants of the study.

The best describing theoretical approach for the VNDF's current partnership network is the strategic network approach, which includes and combines the same motives that VNDF has. Also, the partnership network of VNDF is intentionally build, managed and developed. VNDF constantly measures and analyzes the realization of the motives and objectives and the aim is the overall strategic development of mutual processes and the whole partnership network. The members of the network are truly seen as partners, not as exploitative service providers. As a central organization VNDF aims at development of functional cooperation and operation models between the partners. If the operating in the partnership network is undeveloped, complicated and harsh the basic objectives of the partnership, like cost savings, cannot be achieved.

The contractor partnership network of VNDF consists of two kinds of contractors, which are annual contractors and project contractors. VNDF has annual contracting contracts with the annual contractors and the project contractors are contractors that participate in tendering processes of individual projects. These two will be discussed more in detail in the following chapters. The partnership network environment of VNDF also includes subcontractors of the annual and project contractors. These subcontractors do not have direct relationships with VNDF.

5.1.1. Annual contractors

At the moment, VNDF has annual contracting contracts with nine different service provider companies and they are called annual contractors. The current contract period started in August 2008 and lasts until 2011. The contracts can be continued with two option years. The contracts are based on the contract form called "The General Conditions for Building Contracts YSE 1998" and on the national terms and conditions specific to the electricity networks services. Naturally, the contracts are customized according to the needs of VNDF.

VNDF's electricity network is divided into 25 different areas whose borders comply postal codes. Each area has one annual contractor and some of the annual contractors have several areas. The estimated market shares of the nine annual contractors are 33, 12, 12, 10, 10, 8, 6, 5 and 4 percentages. The VNDF's electricity network and the contracting areas can bee seen in appendix 1. The areas with same color have the same annual contractor.

The annual contractor for each contracting area was chosen with tendering process where all the prospective contractors gave their prices. The contracts are unit-priced and include network construction, maintenance, service functions and fault repairing. VNDF orders these services as unit-based for each area from the annual contractor of the concerning area. The unit-prices are agreed in the annual contracts.

Within the contracts VNDF is committed to a certain order turnover per area per year. On the other hand, the contractors are committed to accept a certain level of orders and they must guarantee recourses and certain performance level so that the ordered works will be done.

The construction works that are ordered within the annual contract are in many cases customer related, for example small investments, renovating, new connections etc. If the project is bigger than approximately 30 000 euros, excluding materials, in most cases it will not be included to annual contract but it will be put out to individual tendering. Though there is no actual price limit when the project will not be included to annual contracts. The working with the annual contract is based on the promised turnover and estimations per contracting area that VNDF gives to the contractor. The construction works are estimated in euros in a monthly level for a year forward. The maintenance works and service functions are estimated in euros for one-year periods. This way, contractor can consider what kind of resources, where and when it needs. The fault repairing differs from other functions purchased with the annual contract. The fault repairing is not limited to certain areas but the contractors are committed to it in the whole electricity network of VNDF. The annual contractor has a first-hand responsibility for the fault in its own areas but they can also be called to areas of another contractor, depending on the need.

VNDF purchases contracting services to its network by two ways, with the annual contracts and with tendering individual projects. It can be said that all the basic doing is included and ordered within the annual contracts. The financially bigger projects, or projects that demand special know-how that is not demanded in the annual contracts are put out to tendering. The purchasing of these contracting services in VNDF is handled by the construction contracts and projects team. The team is responsible for the VNDF's contractor partnership network; this will be discussed more in the chapter six.

The tendering of individual projects is not related to any contracting area. The invitation of tenders is sent to all of the contractors that have expressed their interest towards VNDF. Normally, every annual contractor takes part in the tendering process but there are also several other service providing contracting companies that receive the invitations of tenders. The contractors that are not annual contractors and do these individual projects to VNDF are, after winning the tendering, called project contractors. The project contractors are briefly discussed in the following chapter.

5.1.2. Project contractors

In addition to annual contractors, there are several project contractors that take part in the tendering of individual projects. These contractors have expressed their interest towards VNDF and towards certain types of projects or projects in certain geographical areas. After winning the tendering of the project, contractors sign an individual contract with VNDF and receive the project order. These tendered individual projects are mainly total contracts with unit prices where the costs are paid according to the amount of

realized units of work. Bigger regional electricity network and primary substation projects are exceptions where the contract form is total contract with total price.

There are many different kinds of companies among the project contractors. Some companies are big, several are small, some have done many projects to VNDF and some just a few. VNDF wants to support new companies that are coming to markets and takes them willingly along the tendering process if they have the necessary capacity. Recently, due to VNDF's decision to build the entire new electricity network with underground cables, many excavation companies have participated to tendering and become new project contractors for VNDF. Some of these excavation companies do the construction and digging work and buy the electrical installations from their electric company partners. Both the annual contractors and project contractors use variable amounts of subcontractors and partners.

By tendering projects and using project contractors outside the annual contractors VNDF supports the service providing market and due to price competition achieves a lower price level. This also enables the rising of new contractors with new efficient work methods. Broad supply ensures the needed resources and makes sure that no one can dominate the markets and that too risky dependency on some contractor cannot be born. The bigger individual projects also support the annual contractors actions, giving them a possibility to bigger volumes of work in addition to the works included to the annual contracts. Over and above, through these individual projects and being a VNDF's project contractor one can grow to be a potential annual contractor for future contract periods. This also keeps the current annual contractors on their toes and drives them to develop their actions. With all this in mind, the project contractors are also an important part of the partnership network of VNDF.

5.2. Partnership network environment

When imagining the whole partnership network of VNDF one can see that it is huge including hundreds of partners. The comprehension of the partnership network differs when looking it from different perspectives and roles. As mentioned earlier, this thesis focuses on the VNDF's contractor partners and the partnership network that they form. The sketch of VNDF's partnership network environment carried out with this perspective can be seen in appendix 2.

At the moment, the partnership network of VNDF consists of nine annual contractors, several project contractors and a number of subcontractors that do not have direct relationship with VNDF. The annual contractors and project contractors have a direct relationship to VNDF. As one can see from the figure 2 in the appendix 2, the contractors' relationships are linked very crosswise. In addition to using these separate subcontractors that do not have relationship with VNDF, some of the annual contractors have cooperation and subcontracting contracts between themselves. Also the project contractors can do subcontracting to annual contractors and to other project contractors. Furthermore, in some cases the project contractors buy subcontracting from the annual

contractors. The example case can be when the project contractor is an excavation company and it purchases electrical installations as a subcontract from an annual contractor. The use of the separate subcontractors that do not have direct relationships with VNDF and these mutual subcontracting and cooperation contracts between the annual and project contractors varies a lot. Some companies use several subcontractors and some use none.

The sketch of the partnership network environment of VNDF in the appendix 2 includes also other partners and interest groups that influence on the contractor partnership network. This gives a better picture of the whole. Other business units of Vattenfall like Vattenfall customer service have an influencing role in the VNDF's partnership network. For example, they get the first customer contract and gather the needed information, which gives the base for the contractors to execute customer projects like new connections. The electricity network of VNDF covers almost 100 municipalities so the whole partnership network cooperates with them and with several federations of them. The VNDF also cooperates with the telephone and broadband network operators and some of the contractors have contracting contracts with them. The material recycling partner of VNDF can be seen daily within the partnership network. It takes care of the material that comes out from the electricity network when the contractors renovate it.

The influencing partner who is perhaps the closest to contractors' business and named in the appendix 2 is the logistic partner. The electricity network material purchasing of VNDF is divided into two parts, the strategic purchasing and the standard purchasing. The standard purchasing is done from the logistic partner. The logistic partner also takes care of the logistics of the both ways to purchase. When the contractors start a project they order the needed electricity network material from the logistic partner through an information system interface that VNDF has defined. The logistic partner delivers the material to the needed place and the contractors have the material responsibility but VNDF owns the material. VNDF does not have any own material stocks. The logistic partner and the contractors take care of all the handling of the material.

The mentioned partners have more or less an everyday impact on the partnership network. The rest of the influencing partners in the appendix 2 are the ones that are not so visible in practice but influence in the background. The system suppliers are a good example of this. Networked business requires functional information systems so that the needed information is available where it is needed. Naturally, also the government, the energy market authority as a regulator and other different administrators have an impact on the partnership network through legislation and directives. VNDF and the partnership network cooperate with different universities and research institutes. The purpose is to develop the whole branch of business and VNDF's own and the whole partnership network's actions. Also, the other electricity network operators have an influencing role on the partnership network. VNDF does some developing cooperation

with them and some of the VNDF's contractors have contracts with another operators, too.

The figure 2 of the partnership network environment in the appendix 2 is a rough sketch. It gives a basic view of the VNDF's contractor partnership network and other partners that influence on it. The sketch is a good start to further analyzes. For example, the next analyze could be a more accurate partnership network map where the contractors are named and the types of their mutual relationships are recognized. The next chapter compares the sketch to theories and defines the typology of the partnership network.

5.2.1. Typology

The different theoretical partnership network typologies were presented in the chapter 2.2 in this thesis. By getting familiar with them and by looking the figure 2 in the appendix 2 one may easily conclude that the partnership network of VNDF can be included to the multidimensional partnership network models and that the best describing multidimensional model is the strategic network model.

Almost all the features of the strategic network model can be found in the partnership network of VNDF. The VNDF is the clear central organization of the partnership network and it has a key role in the building, developing and maintaining of it. One can find several competing parallel partnerships but also at the same time a tight and close cooperation between VNDF and its partners. The operations are organized according to common principles and the network forms a learning area where the learned information that can benefit everyone is spread out if not talking about someone's competitive edge.

The partnership network of VNDF also includes virtual organizations, which is typical to strategic networks. The figure 2 in the appendix 2 shows two examples of these virtual organizations. The virtual organization 1 is a development group for logistics. The members of the group are VNDF, two annual contractors, one project contractor, logistic partner and material recycling partner. The members meet regularly and the purpose of the group is to develop and improve the logistic actions within the whole partnership network. Another example, virtual organization 2 is a development group for the IT-systems. The members of the group are VNDF, three annual contractor and project contractors, some system suppliers and some other electricity network operators. The purpose of the group is to develop and improve the mutual IT-systems so that they serve the needs of the business branch and the partnership network of VNDF continuously better.

The theories of the strategic networks also highlight organizing the network operations according to a common partnership network strategy and commitment among partners to work and develop the network systematically. Within the strategic network the cooperation is developed into a whole new level and long-term multidimensional cooperation relationships between the partners are born. VNDF's intention is to steer and develop the partnership network towards a direction that fulfills

these features even more. This thesis discusses about this development, which is achieved with the right management of the partnership network, in the following main chapters.

The theoretical strategic network model divides the partners into three different levels: strategic, tactical and operational. This division is not done in the sketch of the partnership network of VNDF in the appendix 2 because the different levels are not yet defined in VNDF. The next chapters discuss what the division could denote and what its role could be in the partnership network environment of VNDF.

5.3. Defining partnership levels

As stated in the theoretical part of this thesis, the management of partnership networks starts with recognizing the partners and the levels of the partnerships. It is the base for the management. Roughly said, the different level partnerships are managed in different ways.

Clearly the best describing partnership network model for the contractor partnership network of VNDF is the strategic network model discussed earlier. This model recognizes three different partnership levels: strategic, tactical and operational. The levels of the partnerships between VNDF and its contractors have not been systematically defined, and when talking about developing the VNDF's management of the partnership network, this should be noticed. VNDF has recognized the need to classify the partnerships. The classifying is a start to develop the management and to notice where the partnerships are developing. It also enables one to see how and what kind of partnerships should be deepened in order to achieve the biggest profits with reasonable risks. In other words, the different levels connect straightly to the management of the partnership network and to its strategy. This is discussed in the chapter six.

The division into three different partnership levels is functional in VNDF's environment. The following chapters discuss these three levels of partnerships in VNDF's partnership network. The chapters deliberate what kind of partnerships can be found from the network now and in the future. They also ponder the roles of the different level partners. The aim is to give a base for more accurate definitions in the future and start the general conversation about the subject. The contractors can see what is expected of themselves become a certain level partner with VNDF and also, VNDF can consider what the different levels of partnerships demand from their side. When the level of the partnership deepens, the possible profits are higher but they demand higher trust and integration of know-how, which leads to higher risks.

5.3.1. Operational

When analyzing the partnership network of VNDF and the individual partnerships between VNDF and the contractors, it is quite obvious that the VNDF's partnerships with the project contractors are at the operational level. The duration of the partnership

is short-term and mainly based on individual projects. The partnerships with project contractors are very close to a buy-sell action where VNDF orders a certain project based on its own purposes and the project contractor executes it as ordered and agreed in the contracts. Also as typical to operational partnerships, there are many possible project contractors and they are kept in price competition.

The operational partnerships normally aim at cost savings and gaining of additional resources. These are basically the objectives of VNDF with the project contractors. Through the tendering VNDF achieves lover price level and a wide supply ensures the resources. Among the relationships with the project contractors one can find a couple of different levels of operational partnerships. Some are purely operational and VNDF does not try to exploit nothing else but the project contractors' execution resources. With them the cooperation link is thin. On the other hand, some of the project contractors are a little closer to the tactical partnership. With them VNDF does a little deeper cooperation and tries to find new and beneficial electricity network construction working methods. Also, some of these project contractors are members of a some virtual organizations as discussed in previous chapters. However, the mutual developing is not intense, the development is mainly carried out in the operational partners' sides. The tight competitive settlement and the project contractors' willingness to win the tendering drive them to develop their actions and working methods.

The basic roles of the operational partners are: to bring forward the real market price of contracting services for this industry, influence on the price and provide the needed resources for VNDF. The cooperation with the project contractors is short-term, individual project based, so they have a good position to be flexible, change and alter their operations or working methods between different projects and find the most efficient ways to process. This in mind one can say that one role for the operational partner is to develop working methods in terms of costs and quality for this industry. The annual contractors also compete in the tendering from the same individual projects as the project contractors. This keeps the annual contractors on their toes and forces them to develop their actions towards more efficient methods.

From the contractor the operational partnership demands adequate resources, competitive prices, good quality, commitment to contracts and naturally willingness to cooperate with VNDF. VNDF is not so dependent on any of its project contractors, so the needed inputs to the partnership depend on the objectives and strategy. In the near future the amount of the operational partners will most likely increase. VNDF wants to support new project contractors to come into to this business. This will bring growing pressure on the market price. VNDF wishes that the other electricity network operators would see the benefits of using purchased services and they would bring their demands to markets. That will have a positive influence on the service providers' workloads and that way on their profitability and, in the end, on the market price.

In the future, the partnership with some project contractors will probably deepen but it demands references from the contractor and mutual willingness. The partnership network of VNDF will need operational partnerships in the near future, as well. Their

role will most likely be almost the same as now but VNDF wants to highlight that the relationship is more than just a customer-supplier relationship. That is way they are called partners and their role of being and their need to be flexible, efficient and innovative on their side will become clearer. This way, VNDF can get the full benefits from the operational partnerships without applying any special own resources.

As mentioned earlier, the amount of operational partners will probably increase but in the long run the amount depends on many things. For example, VNDF puts now resources on supporting new project contractors to come to markets, but after achieving a supply that is broad enough, VNDF will probably have only operational partners that fulfill their role best. Also the development of other level partnerships and the partnership network strategy of VNDF will influence on how many operational partners the partnership network of VNDF will have. In the near future there will be, for sure, operational partners because their role is important and the risks and benefits of the operational partnership are predictable.

5.3.2. Tactical

Analyzing the tactical partnerships within the partnership network of VNDF is not so clear as it is with the operational partnerships. All the partnerships between VNDF and its annual contractors can be mentioned to be at the tactical level but there can be seen some variations in it. There are a couple of annual contractors that are still quite close to the operational partnership and one or two annual contractors whose partnership with VNDF can be seen to be in a higher tactical level. But all the partnerships with the annual contractors fulfill the main features of the tactical partnership. The partnerships are long-term due to the annual contracts, the contractors are seen as a part of the VNDF's processes and the information is systematically exchanged.

The tactical partnerships normally aim at cost savings, learning and development through reducing overlapping actions, combining processes and exchanging information. These describe well the partnerships between VNDF and the annual contractors. Though, VNDF's emphasis with the annual contractors is mainly on the development and efficiency. The efficiency is achieved through reducing the overlapping actions and combining the processes. That leads to a re-checking of resources in both sides. With the tactical partners VNDF wants to develop the overall operations and processes. The tactical partners are truly seen as a part of VNDF's own processes and their actions should be developed like they were a part of VNDF's own organization. For example, with the tactical partners VNDF wants to take the whole business branch forward, find the most efficient processes, achieve constant top quality in every action, ensure the customer satisfaction and the reliability of electricity delivery and enable the focus on the core business.

As mentioned earlier, there is a little variation between the annual contractors when analyzing the tactical partnerships. One or two contractors are quite far ahead with this mutual development. For example, they are willingly taking part in new pilot projects to test some new operation modes or they are developing their IT-systems to

communicate better with VNDF's systems or to serve the needs of VNDF. They are also bringing their own development perspectives to the conversation. The typical trusting environment for the tactical partnership can be seen with these partners, too. Good examples of this are sharing partially the financial risks in the pilot projects and self-managed maintenance. Within the self-managed maintenance the contractor can repair defects and lacks in the electricity network without contacting VNDF. The contractor does the documentation and there is a limited budget. On the other end of the tactical partnership there are a couple of contractors that are not so interested in the mutual development and are closer to the operational doing. This is not necessarily a bad thing because the variation of partners in the partnership network can be seen as a strength.

A good example that clarifies the tactical relationship between VNDF and the annual contractors is that the annual contractors document their operations straightly to the VNDF's network information system. Also the contractors can freely schedule the ordered maintenance works for one-year periods. These all demand trust between the partners, integrated information systems, coherent and continuous processes and performance follow-up, which all are typical to the tactical partnership.

VNDF is focusing on developing these tactical partnerships and communicating this message to the annual contractors. The objective is to get all the annual contractors truly to the higher tactical level in order to achieve all the development and efficiency benefits of it. This thesis can be included to this focus. The mutually created partnership strategy and the partners' scorecard discussed later in this thesis are good examples of taking the next step with the annual contractors towards the real tactical partnership.

From the contractor the tactical partnership demands the same basic things that the operational partnership but those must be taken to another level, for example bigger resources, constant effectiveness and quality, true long-term commitment etc. Being a tactical partner also demands exchanging of information and revealing of the one's processes. To be able to combine processes and take the best practices of the partnership network to use, the contractor must be ready to reveal its processes and working methods. Also, the tactical partnership means that the contractor is willing to constantly develop its operations towards better efficiency and quality. The development is done mutually and the tactical partner must be ready to share a part of the possible risk of the development projects. The development of the tactical partnership is constantly followed-up. From the VNDF the tactical partnership demands as well the revealing of the processes and enough resources for the mutual development, intercourse and for the constant follow-up of the partnership.

In the future, the role of the annual contractor as a long-term partner with VNDF and the role of handling their contracting areas as a part of VNDF's processes will probably grow. They will have a greater responsibility for their contracting areas and they will handle bigger complexes and systems. Developing the relationships with the annual contractors truly to the tactical level is obligatory when thinking this development. The contractor must see it and it naturally demands many things from the

VNDF, too. The most important thing is to develop the management of these tactical partners and that will be discussed in the chapter six.

5.3.3. Strategic

As one can notice, all the members of the partnership network of VNDF who has direct relationship with VNDF have been already included to the operational and tactical partners, so at least not yet one cannot find any strategic partners. At the strategic partnership level, the partners work in true interdependence connected to each other's core competences and core processes and basically the partners have equal positions and roles that complete each other. Within the partnership network of VNDF relationships that fulfill these demands cannot be found, but some of the features in the tactical partnerships already start to remind the strategic partnerships. For example, concentrating on contractors' development potential instead of totally focusing on their efficiency and operational performances, creating a common vision, strategy and scorecard to the partnership. Also, combining processes so far that the operations cannot be ensured just by contracts but they also demand trust.

VNDF's aim is to develop the tactical partnerships and some of them may in the future grow to the strategic level. VNDF's purpose is to enlarge the role of some contractors towards greater responsibilities and that leads to strategic partnership level, which can only be achieved through tactical partnership. Possibly realizing examples of this development towards deeper tactical partnership and in the end to the strategic partnership can be pointed out. The first step could be to shorten the order chain. An example of this could be the ordering of cable-locating services. Now, when the customer contacts Vattenfall customer service and orders cable-locating services, the front customer servant directs the contact to VNDF's technical customer service who takes the information and marks the service order to the information systems and sends the order to the annual contractor of the concerning area. With developing the partnership the process could go as follows. When the customer contacts Vattenfall customer service and orders cable-locating services the contact would be straightly directed to the concerning annual contactor's service center. The order would never be marked to VNDF's systems and the order chain would shorten significantly. This demands deeper integration of processes and trust, which are achieved when deepening the partnership.

The second step could be increasing the annual contractors' responsibilities for their contracting areas. An example of this could be new connections. VNDF would order the building of a new connection just by marking the connection point in the network information system and by defining the needed short-circuit current. The contractor would be responsible for designing, land-use contracts, construction, documentation etc. This is actually already current procedure in the simplest case of new connections but the procedure would be extended to all cases and the total price of a certain type of new-connection for the contracting area would be pre-agreed in the contracts instead of using smaller unit prices.

The third step and the true strategic partnership could be the total network responsibility of the contracting area. In the total network responsibility the strategic partner contractor has full responsibility for electricity network constructing, maintenance, fault repairing, customer service functions etc. promising a certain performance level for a certain price for its contracting area. The strategic partner would probably operate as a so called service integrator and use a quite wide supply of subcontractors and cooperate and create a own partnership network with VNDF's project contractors.

Finding a strategic partnership within the partnership network of VNDF is not happening in the near future. The contractors do not have the readiness to take the responsibility and neither do the VNDF have readiness to take the partnerships so deep. The risks of the strategic partnerships are big and the partnerships must be developed in stages in order to learn and minimize the risks and find where the best benefits can be gained.

The different levels of partnership and the development of them should be seen in the partnership network strategy of VNDF and in the management of the partnership network. Each partnership level has its role and influence on the network and basically each level partner is managed differently.

5.4. Noticed risks and benefits

This chapter discusses the noticed risks and benefits of the partnership network of VNDF and compares those to the risks and benefits of purchased services presented in the chapter 2.4. As mentioned before, VNDF's leading motive to outsource, create a partnership network and purchase services from the partners has been the creating of a true service providing market for this branch of business. With the functional markets VNDF can achieve its other objectives and gain benefits from the partnership network.

VNDF has reached cost savings but at first some actions were purchased from the partners with higher prices than the internal costs would have been. The purpose of this has been to support the market and give the contractor partners a chance to learn the operations. In many cases, this is the situation when you start to purchase new services. Organizing business with the partnership network has also increased VNDF's focus on the core business and gaining of resources has become easier for example to fault repairing. Through the partnership network VNDF has an access to resources, skills, know-how and best practices in the industry. The network forms a learning area where everyone can learn from each other and good practices are spread. In some areas this has enabled better quality of actions. Increasing this development of actions and benefiting of it more in the future within the network, is a one challenge for the VNDF's management of the partnership network.

According to the study of using purchased services in the electricity distribution industry (Aminoff et al. 2009) the most of the electricity network operators considered the situation where there are not enough service providers as the biggest risk of

organizing business with partnership network. They feel that it is possible that some companies start to dominate the markets and that no real competition occurs. VNDF does not see this as a significant risk anymore. The service supply, especially for the individual tendered projects, is broad. But VNDF still sees that the market must be supported, developed and new contractors taken along to create a real functional service providing market for this industry.

Naturally, VNDF has also defined possible risks that can realize when working with the partnership networks. Not having enough purchasing and managing skills is one risk that VNDF has recognized. These kinds of actions are new for this branch of business so there is not so strong and wide existing know-how. This is also connected to another risk, which is bad contracts with the partners in the future. Especially, when developing the partnerships to the strategic level, the describing of the content of the contracts, quality criteria and responsibilities is difficult. VNDF handles this risk by educating its employees, by using consults and, in addition, VNDF have also hired some experienced purchasing workers from other business branches. Another risk that VNDF sees is possible supplier problems, for example poor performance and difficulties to execute the ordered works. VNDF has also noticed that there is a risk of loosing the flexibility of different actions. Especially, at the first steps when purchasing some actions from the partner the operating can be quite rigid and there can be some starting problems. The management of the partnership network aims at preventing these supplier problems and developing functional and flexible processes between the partners.

Maybe the biggest risk that VNDF sees when operating in the partnership network are the IT-systems. The IT-systems must be adjustable to the changing needs of the partnership network in the future. The system must be able to handle simultaneous hard stress from many users and it must not be vulnerable. If the main IT-systems fall down, the operations in the whole partnership network could stop. The management of partnership network must notice the importance of these mutual information systems.

All in all, VNDF is pleased for its decision to outsource and organize its business with partnership network. The benefits are bigger than the realized risks. The partnership network is built and the next step is to manage and develop it.

6. MANAGEMENT OF PARTNERSHIP NETWORK IN VATTENFALL NORDIC DISTRIBUTION FINLAND

VNDF wants to develop the whole partnership network and some of the individual partnerships into a deeper cooperation level. The management of the partnership network steers this development and in order to succeed in it, the management itself must develop at the same phase or a little ahead with the partnerships. This demands a new kind of point of view to the management. The management is more than just ensuring the quality, delivery dates and the cheapest price. The management of the partnership network is more like a strategic function that is carried out in three levels: individual, network and environmental.

The objective of this thesis is to develop the management of partnership networks in VNDF. The intention of VNDF is that the partnerships join seamlessly to the management system as a part of processes that achieve results just like the own teams of VNDF. This chapter discusses the management of the partnership network in VNDF and points out some development targets according to the theories and contractors' experiments.

6.1. About the management

As the partnership network theories warn that many companies have failed to understand that when in-house manufacturing is replaced with outsourcing, there is still a need to be involved in managing the supply. VNDF has understood this quite commendably. The need for the management and the demand for its development when taking the partnerships into a deeper level are comprehended. VNDF does not have a separate management system for its partners and for the partnership network. As stated earlier, the partners are seen as a part of VNDF's own processes and managed, in principle, from the same starting points as VNDF's own teams. This is a good perspective and supports the development of tactical partnerships where the overlapping actions are reduced and processes combined. Overall, the current state of the management of the partnership network in VNDF gives a good base to start to develop it. The basic functions already exist pretty broadly and the vision about the development direction is quite clear in VNDF.

The management starts from the five business processes of VNDF. These five processes are: delivery of electricity, outage management, take care of customer response, quality of delivery and connection services. Each process defines targets in

which VNDF together with its partnership network must succeed and where it must develop. This gives the objectives to the partnership network management.

A team that is responsible for the contractor partnership network of VNDF and for its management is the construction contracts and projects team. The processes of VNDF give their demands and the construction contracts and projects team is responsible for achieving those objectives in the partnership network of VNDF. The team is responsible for developing and steering of VNDF's service purchasing and for creating and managing of the best possible partnership network environment for VNDF to serve the needs. In a little more accurate level, the team answers for the service purchasing contracts, the developing of the contracts, developing of the contracting service market, tendering of individual distribution network projects and scheduling and choosing the contract form for different projects. The team is also responsible for all the cooperation and interaction towards the contractors, ensuring the quality of the purchased services and also ensuring the contractual operation in both sides. Among other things, the interested group cooperation, ensuring the functionality of logistic contracts and cost-level follow-up can also be included to the responsibilities of the team. In a nutshell, the management of the partnership network of VNDF is the responsibility of the construction contracts and projects team.

The construction contracts and projects team has the responsibility of the relationships with the contractors but the everyday operational functions with the contractors is handled by a unit of VNDF called field support, which has an important role in the interface with the contractors. The field support unit is divided into field teams, which operate in different geographical areas within the electricity network area of VNDF. These field teams have named project executors for every contracting area that order the projects and works from the contractors and they are the contractors' contact person, as well. They supervise the contactors work, do different inspections like the acceptance inspections, check the contractors' billing and documentation and accept the works technically. The financial settlement and accepting of the contractors' billing is carried out in the construction contracts and projects team. The field teams of the field service unit have operational meetings with the contractors concerning operative actions. Basically, the field service unit carries out the operative interaction with the contractors and the construction contracts and projects team supervises these actions in a little higher strategic level. The intention of VNDF is to increase the responsibility of the field service unit towards the contractors and that way increase the strategic, process steering and developing role of the construction contracts and projects team.

6.2. Analyzing the management

The partnership network of VNDF at its current form is relatively young and definitely unique. In conclusion, that this demands a lot from its management and developing of the management. As mentioned earlier, the current state of the partnership network

management with already existing basic functions form a good base in VNDF. So far VNDF has succeeded quite well in the management. It has achieved the main objectives and avoided big problems that are typical when outsourcing services. For example, VNDF has not been on the newspapers gathering bad reputation for poor performances of its contractor partners or indistinct responsibilities between the partners.

The contractors think that VNDF has good commercial purchasing skills and the developing focus should be on managing the mutual processes. The contractors have given the same messages to VNDF that the study of outsourcing services in the electricity distribution industry (Aminoff et al. 2009) revealed. The contractors wish more punctual, well-considered, transparent and expectable management. They also wish more interaction, mutual development and better noticing of the factors that influence on their business.

As stated earlier in this thesis, VNDF's objective is to develop the relationships with the annual contractors into a true tactical level and the next level of the partnership demands a new level of management. This need for the development of the management is understood well in VNDF. The development is good to begin from noticing the needs of the own processes, the wishes of the contractors and getting familiar with the theories. The theories do not reveal how long it takes to develop the management when transforming from a supplier network into a deeper partnership network. Perhaps, this is because the management and its development is a continuous process and actually the management steers the development. The one thing that theories do underline is that the resources for the management and its development must be adequate. Deeper partnerships demand more management resources and skills than purely operational automated partnerships. VNDF must ensure these resources because there is also a risk that when developing the partnerships but not developing the management and ensuring its adequate resources the situation can lead to disorder where combined processes do not work and the both partners cannot operate.

The next chapters analyze the management of the partnership network in VNDF reflecting it to the theories and partly to the contractors' feedback. They point out some development needs but the main development points are discussed more accurately later in this main chapter.

6.2.1. Meeting the challenges

The theoretical part of this thesis listed understanding of self-organization, creating a strong self-reference, creating a partnership networks DNA and defining a partnership network strategy as the biggest challenges of the partnership network management. Overcoming these challenges gives the best basis for a successful management.

VNDF has quite well understood that when operating in the strategic partnership network, managing it with a tight linear control chains is unwise and practically impossible. The partners should be given enough space in order to self-organize in the most efficient way. The understanding of this self-organization exists but there is a need to take it more to practice in VNDF. The partnerships between VNDF and the annual

contractors can be seen situated in the tactical level but the management of them fulfills some operational features. The annual contractors are still quite precisely guided in different actions. Understanding this self-reference must be ensured in the contractors' side, too. They must realize the situation and its potential but also the responsibility. VNDF is developing this and creating a scorecard environment for the contractors. One purpose of the scorecard as a management tool is to build the guiding frames of actions but to leave enough space to contractors to self-organize in the most efficient way to achieve the objectives. The scorecard is discussed more in the chapter seven.

When analyzing the second challenge, which is creating a strong self-reference one can say that VNDF has overcome this challenge. The profile of VNDF, its brand and business core can be seen strong. VNDF is capable of making choices, prioritize actions concerning its partnership network and influence on its business and network environment. VNDF is truly the central organization of its partnership network and has the leading role in it.

With the last two challenges VNDF has the most development to do in order to overcome them and form the best possible basis for the management. The DNA of the partnership network of VNDF is incomplete. The true double bond is missing. VNDF has not systematically defined the four parts of the DNA with everyone within the network. Some conversations have been held with the contractors' company management but the DNA should be documented, informed everywhere and repeated in every cell in the partnership network in order it to work as fundamental code that guides everyday actions in every employee level. The last challenge and the most fundamental part of the partnership network management is the defining of its own strategy. The strategy is basically a part of the network's DNA. To succeed in the management, the whole partnership network needs a common strategy and the individual partnerships needs their own strategy that is linked to it. These both must be systematically created, documented and informed. Creating and stating a clear strategy mutually with the partners for the whole partnership network and the individual partnerships is one of the biggest development needs in the VNDF's partnership network management and it will be discussed more in detail in the later chapters.

6.2.2. Individual partnerships

The management of partnership networks starts from the management of individual partners. The process begins with recognizing the partners and the levels of the partnerships. VNDF has a good picture of its partners and the members of the partnership network. All the members are given access to the extranet service of VNDF and from there VNDF can easily follow for example new project contractors that are participating in the tendering process. Also, some of the contractors of VNDF wish that their subcontractors are also given the access to the extranet service as a sub-team of the concerning contractor. This enables also the systematic follow-up of the subcontractors that the contractors of VNDF use.

VNDF has a good comprehension about its partners but when it comes to recognizing the levels of the partnerships the situation is not so clear. As stated in the chapter five, the levels of the partnerships between VNDF and its contractors have not been systematically defined yet. The chapter five started this conversation in VNDF and the partnership levels will be connected to the partnership network strategy of VNDF. One important point in the management of individual partnerships is to define the basic objectives for each partnership. Again, VNDF meets the same development need, the objectives have been discussed between the managers but they have not been systematically defined and informed. Linking the partnership levels to the strategy of the whole network and defining the basic objectives for each partnership, as a starting point to the individual partnership strategies will enlarge the fundamental basis for successful partnership network management in VNDF.

When analyzing further the individual partnerships between VNDF and its contractors, one can notice that VNDF is not highly dependent on any contractor. Basically the contractors are more dependent on VNDF as their customer. This situation causes no problems to VNDF but when developing the partnerships into a deeper level the dependency of some contractors grows and that must be remembered and taken into account in the management.

The main steering mechanism of partnerships that VNDF uses to manage the individual partnerships is, without a doubt, the price management. The price competition plays a big role in the management. The authoritarian management is also strongly present. The contracts include quite wide responsibilities to the contractors. VNDF masters these two steering mechanisms quite well and the contractors admit that too. But VNDF could use more social steering. The studies have shown that by increasing the social steering the performance levels of partnership have improved in most cases. The meaning of the social management and interaction increases when the partnerships deepen and they start to demand more trust. In order to succeed even better to manage the deepening partnerships VNDF should increase the social interaction with its partners. The contractors have wished this, too. The interaction is the second most important development target, after the mutually defined strategies, in the management of the partnership network of VNDF. It will be discussed more in detail later in this main chapter.

The theoretical part of this thesis listed criteria for successful management of different level partnerships. Overall, when comparing those lists, the management in VNDF is at a good stage and has no serious flaws. Naturally, the small amount of realized problems with partners give the same message. The management of operational partnerships is quite developed in VNDF. The price competition and contracts are well considered and functional. One thing that VNDF should clarify is the systematizing of the follow-up of the project contractors' quality and actions. Now, the experiences of one project contractor are limited to the personnel that have worked with the project. The project and construction team who tenders the projects have good knowledge and experience on the different project contractors quality and the quality inspection

documents can be found from the IT-systems but if the tendering tasks are given to some other team or unit in the future, some kind of systematic follow-up would ensure the transferring of the information. This way noticing the project contractors' quality in the individual project tenders is possible even if the person does not have its own experiments about the contractor. VNDF can run a report of the project contractors acceptance inspections but it does not necessary tell the whole picture. Some project contractors can do just one project to VNDF so building a heavy systems is not necessary worthwhile, but simple system where the experiments of the contractors' work are documented with the acceptance inspection report would be enough. The situation with the annual contractors is different because they do projects to VNDF everyday and everyone has experiments of their action. Also, VNDF has a systematic follow-up and reporting system for the annual contractors performance and it is discussed in the chapter seven.

VNDF is developing its partnerships with annual contractors into a truly tactical level and so the management must develop, too. The focus of this thesis and the development needs that are pointed out can be seen as a development direction towards the management of tactical partnerships. For example, mutually discussed strategy, increased interaction, evaluating of the partnership and wider exchange of information due to deeper combining of processes. These all are criteria for successful management of tactical partnership.

As discussed in the chapter five VNDF does not have strategic level partnerships with its contractors. If VNDF will have them in the future and be able to manage them, the internal partnership strategy must be clear. The successful strategic management demands creating and defining the whole management concept before the partnership is created. It demands that the strategic partnership must grow through tactical partnership. This will be the next challenge in the management of individual partnerships after the tactical partnerships.

6.2.3. Partnerships as a network

The second level of the partnership network management is the management of partnerships as a network. The fundamental thing in this is the internal partnership network strategy. VNDF has a strategy for its partnership network but it is quite scattered, diversified and not widely documented. VNDF has still some development to do in order to really clarify what its partnership network strategy is, connect the existing different elements systematically together and create consistent and clear strategy. The strategy clarifies for example in which level partnerships VNDF will focus its resources and investment and what functions will be purchased from the partners. A public part of this strategy will be revealed and discussed with the whole partnership networks and it will be the base for the mutually created individual partnership strategies.

When analyzing further the VNDF's management of partnerships as a network one challenge relating to that appears. Some of the contractors do not see, as clear as they should, the general picture and the fact that the whole partnership network is

working on the same process. The management should find the ways to communicate this to every employee level. The contractors should see and understand their role in the partnership network and in the process. They should understand that they are representatives of VNDF and the end-customer is mutual. The contractors themselves admit that some of their employee levels have improving to do in order to achieve the understanding and they have wished some concrete tools from VNDF. VNDF's challenge is to achieve a better understanding of the general picture among the contractors with the right management.

One element in the management of partnerships a network is the constant expanding of the network with compatible partners that bring new value to the network. VNDF has handled this quite well. VNDF constantly encourages and supports new contractors to come into the markets and become a project contractor for them. If the chosen strategy is the same in the future the management system should support this and define actions to simplify and to easy the drive-in of new contractors. The needed support and what is expected from the contractor should be systematically defined. One example of VNDF's good management that expands its partnership network adding value is that VNDF intentionally included demands of maintaining primary substations in the annual contracts even if it knew that all the contractors do not immediately have the needed know-how. This forces the contractors to gain that know-how and they can grow to be new service providers to a larger primary substation projects among a few companies that are in the markets today.

To take care of partners' compatibility is also one thing that must be remembered. VNDF and also the contractors do not see any problems in the compatibility among the partners. This good situation can be ensured in the future as well by telling and defining clear roles for the contractor so that conflicting situations do not occur. Operating in the partnership network is a combination of many things and the contractors have wished a more transparent and expectable management. This must be noticed when managing the contractors as a network. The increasing of the transparency in the partnership network management is one of the development objectives of VNDF and it will be discussed later.

The information systems have a big role when managing the partnerships as a network and that must be remembered. The needed information must be available where it is needed. A good example of using IT-systems in the management of partnerships as a network is that VNDF sees the entire fault repairing material stocks of each contractor and can easily tell the fault repairer where the nearest spare part is located. The importance of functional IT-systems must be remembered and highlighted when developing the management of partnership networks.

6.2.4. Network surroundings

The third level of the partnership network management is the management of network surroundings and its impact on the network. VNDF handles this element of the management exemplary. VNDF knows that the variety of different kinds of partnerships

in the partnership network ensures flexible and fast reaction to the changes in the network surroundings. Also, by developing the partnerships towards a deeper and long-term cooperation, and by giving the contractor more responsibilities the network achieves better flexibility. This way, the contractor who is closest to the change can react immediately within its sphere of responsibilities instead of getting that impulse from VNDF and agreeing for example about a new operation model.

VNDF influences on its business environment consciously by participating in different working groups and cooperating with different instances. In many changes in the business environment VNDF has been the pioneer company. VNDF is in the first flight when changes occur in the network surroundings. This enables early reaction and gives a good position to make changes in the partnership network.

VNDF has included some options to the contracting contracts with the partners that can be taken in to use if needed. An example of this is that the annual contracting contracts also include unit prices to communication network building. This can be taken in to use if the cooperation with telephone and broadband network operators develops. The contractors would also build the communication network and everyone benefits from simultaneous construction. Including this option to the contracts beforehand is a good management of partnership networks surroundings and its impact on the network.

One tool, with which VNDF follows the seasonal situation of the contracting markets and its overall development, is the tendering. The contractors' tendered prices tell a surprisingly great deal of the situation in the markets. Now, the following of this and making conclusions is based on expertise on some people, so developing some kind of systematic analyzing tools with the experts would be one thing to consider. Another development idea for the management of network surroundings is that VNDF should interact more with the contractor and ask their opinions about the change signals in the network surroundings and those influences on the network. Some of the contractors of VNDF work nationally and some in the Nordic markets, so they have a good and big picture. The contractors have also said that VNDF asks surprisingly little information from the contractors and that they could be used more as a sensor to the changes.

6.3. Some key points

The management of partnership networks is challenging and from the theories and other companies' experiments one can find some key points that VNDF should notice. First of all, the management of partnership network demands many skills from the employees. The teams and persons working with the contractors must be able to handle different issues that have operative and strategic aspects. Also, the management should notice the different factors of actions and decisions at all the three levels of the management: individual, whole network level and environmental level. Naturally, like everywhere, the personal chemistries play an important role on how smooth things go.

The next thing to notice is that VNDF is quite a big and dominant central organization in the partnership network. Some contractors are quite dependent on

VNDF as their customer. This lifts the bar to give feedback to VNDF about nonfunctional, forced and rigid processes and operations. The management of partnership network must create an environment where the contractors can give feedback and they see that the operations are also developed in VNDF. In addition, the conflicting situations must not be feared or avoided but handled. Otherwise, the nonfunctional operations will be seen in the prices of contractors and they will cost in the following annual contract periods.

Another thing that needs to be noticed in the partnership network management is that there is a need for a relationship variety. There is no such thing as the best type of relationship. Different suppliers provide benefits and costs of various kinds. For this reason, in the end, one must manage different relationships in different ways. VNDF must also notice for its future possible decisions that a company cannot handle too many tactical or strategic partnerships. They demand a lot of resources and if a company has many contractors with wide responsibilities, overlapping cannot be avoided. Also, too many operational partners demands resources. VNDF must find the optimal structure for the network according to its needs, but a company should not have a very large supplier base.

VNDF should also avoid over- and under-involvement in its partnerships with the contractors. Over-involvement occurs when VNDF's recourse input to the relationship exceeds the gained benefits and the under-involvement, on the other hand, when VNDF has invested too little to take advantage of the supplier's potential. The actions, inputs and the use of resources must always be intentional and align with the partnership strategy.

One rule of thumb in the management that must be remembered is that the partnership requires an interest service provider or supplier. The partner must have willingness to cooperate and develop its actions. Without the willingness the partnership will die out and the investments will go down the drain. The partners must have willingness to participate in different development groups and virtual organizations. The partner must be able to see the whole picture and the common benefits for everyone working in a networked business environment. VNDF should encourage cooperation among the contractors.

One other key point in the management of partnership networks that VNDF should always notice is that the exchange of information plays a significant and vital role for network efficiency. It can be said that the efficiency is directly proportional to the fact how well the information is exchanging. The functional IT-systems, reporting, interaction etc. are all a part of the whole.

At the last but not the least, the service that the end-customer gets is a mix of many factors especially in the networked business. One cannot never too much highlight the importance of the end-customer and understanding of the whole process to the contractors.

6.4. Development needs

Overall, the current state of the partnership networks management in VNDF is good and it forms an excellent base to develop it further. As mentioned before, VNDF has taken its actions deeper into the partnership network than any other electricity network company and at the same time one can say that VNDF has also a unique management for it. Corresponding management cannot be found; the thinking and the vision of VNDF about the future represent pioneer aspects. The thoughts of VDNF that the management needs to be developed describes that the situation is good and VNDF understands the importance of the management.

The objective of this thesis is to develop the management of partnership networks in VNDF. This chapter discusses the main development points that have risen from the VNDF's own needs, contractors' feedback and from theories. The basic functions of the management already exist so the development points mainly associate with creating systematic functions and handling the management as a whole.

The most important development points are creating a partnership network strategy with internal and external elements, creating individual partnership strategies mutually with the partners, increasing interaction with the partners and improving the transparency of the management. Also some other development needs and ideas are pointed out and discussed in the following subchapters.

6.4.1. Strategies

The partnership network strategy of VNDF is quite scattered, diversified, in the minds of few and it has not been systematically created and documented. The contractors have said that they have difficulties to see the common and homogenous strategy of VNDF. The contractors cooperate with many units of VNDF and they get instructions and opinions from many places and sometimes it can be confusing. Basically all this should go through the construction and projects team but in practice it is impossible. A widely informed and documented strategy would at least unify the fundamental level of partnership comprehension. The strategy would also crystallize the work and objectives of the people of VNDF cooperating with the contractors and managing the whole partnership network. A strategy is the fundamental base in any management.

VNDF should define systematically its internal partnership network strategy. Firstly, VNDF should define the vision, mission and the objectives of the whole partnership network. Then the strategy is build according to them and for example it includes the wanted structure of the network, the optimal partnership network environment, what level partners there will be, what functions will be purchased from the network, and how and to which direction the partnerships will be developed. Then, this internal partnership network strategy should be systematically documented and informed to the employees of VNDF at those parts that it is possible without revealing too much.

The internal strategy would be the base for the public external partnership network strategy that is refined mutually together with the members of the partnership network. The vision, mission, objectives and the strategy to achieve the vision and those objectives as a network will be mutually discussed and agreed. The examples and theories confirm that taking the partners along to define the strategy and doing that at the earliest possible phase, improve the commitment, results and the performances of the whole network. Taking the partners along also builds trust for the mutual future, improves their picture of the whole and they understand their role in the network better. VNDF has already started this systematic defining of the partnership network strategy and linking the different levels of the partnerships to it. As soon as possible the conversations and the mutual refining of the strategy are started with the contractors. But one must remember that the strategy is a continuous process and it must evolve according to the changes and demands. So the discussion about the strategy should be continuous both internally and with the contractors.

The partnership network strategy of VNDF explains in what direction it wants to develop the partnerships with the contractors, what objectives the partnerships have and what the roles of the different partners are. When the strategy is ready it should be used as a base to create a mutual partnership strategy with every contractor. The systematically created mutual partnership strategy should include the concerning partnership's vision, long- and short-term objectives for development, learning and cooperation and things where the contractor and VNDF must succeed in order to reach the goals. The individual partnership strategy improves even more the contractors' comprehension about the whole process and their individual roles. It also clarifies what is expected and what is the wanted future state. Creating the strategies together is the only way to achieve the partners' commitment, real steering effect and true understanding of the objectives. The strategy must be systematically documented and informed in the contractor's organization and also in VNDF so that the understanding is ensured.

VNDF is creating a simple tool, which will be used to help to determine a simple strategy for each team in VNDF. It starts from recognizing the processes' needs for the teams and then, the objectives of each team are systematically defined. After that, the team builds a strategy or an action plan to reach those objectives. When this tool is created, it should be definitely taken into use with the contractors, too.

When discussing with the contractor about the concept of creating a mutual strategy, they all have welcomed it as a needed element of the partnership and its management. The contractors wish that the strategy would be concrete enough instead of abstract and eloquent thoughts. It should include concrete actions and objectives. But one must remember that we are talking about the mutual strategy of two companies so it is the contractors' responsibility to ensure the understanding among its lower employee levels. It is impossible to make such a company level strategy that every worker can find and understand the objectives of his work straightly. The contractor must lead this strategy from the company level to its worker level at best possible way.

The contractors feel that VNDF presents all new operation modes and suggestions quite well prepared. They see that VNDF has considered a few quite significant things for some time and they would have liked to get the pre-information earlier in order to prepare for it better. Getting this pre-information as soon as possible would be a mutual benefit. One of the key points in the partnership network management is to know the next step and communicate it to the partners. This mutually created strategy is a partial improvement to this. The mutual strategy also helps the contractor to see the whole picture, understand the process, see the own role and communicates the objectives. The strategy and the objectives should always connect to an evaluating system that follows the functionality of the strategy and achieving of the objectives. One of the objectives of this thesis was to create this kind of a system for the annual contractors. This is called the partners' scorecard and it is presented in the chapter seven.

The described systematic defining of the partnership network strategy of VNDF is already in progress and it will be taken to the contractors. Perhaps the biggest challenge is to define the wanted future guidelines and what kind of partnership network and which actions will lead the best result. Defining the basic consistent partnership network strategy is for sure a harder process than presenting it to the contractors and refining of it with them. VNDF has to also remember that creating the individual partnership network strategies with every contractor demands resources but it is practically obligatory to the management of them.

6.4.2. Interaction

Basically, all the studies and experiments show that the increasing of interaction with the partners and the use of purposeful social steering has given good results. It has improved the performances of the partners in every partnership level. VNDF should definitely increase the intentional social interaction with the contractors, the contractors have wished it, too.

Today, VNDF's systematic interaction with the contractors focuses on handling the basic everyday operations. VNDF's project executors deal with the everyday functions together with the contractors' work supervisors. At the beginning of a bigger project a start meeting is arranged between VNDF and the concerning contractor to agree on practical things. An operational monthly meeting is held with every contractor to follow and discuss the operational performances and practical issues. VNDF arranges information and lecture days approximately three times a year to advice contractors on new things. These all are examples of the current interaction that concentrates on handling of the basic functions. These are of course important, but the aspects of development and deepening of cooperation should be added.

VNDF already have some systematic interaction with the contractors that have these aspects of development. VNDF arranges yearly individual management meetings between the managers of VNDF and the concerning contractor. VNDF also arranges a yearly partnership network day where all the contractors gather and discusses with

VNDF. The management meetings are held quite rarely and the partnership network day deals with the issues in a very general level. So there is a definitely need for more interaction between VNDF and the contractors which concentrates on the development and on the mutual partnership. The topics of the interaction should basically be between the operational monthly meetings and the management meetings. In practice, this could mean intentional mutual meetings between VNDF and a contractor concerning the partnership and its performances, developing the processes, discussing and also asking and giving feedback.

The creating of the mutual partnership strategy discussed in the previous chapter is a one good addition to this interaction. Also, the contractors have proposed regular development and quality groups, building more of these virtual organizations so to say. The message that the contractors are giving is that they have willingness to develop the things mutually and VNDF should actively respond to this. The contractors have said that the mutual interaction with a pioneer company like VNDF develops the whole business branch. Some of the contractors work nationally to many electricity networks companies and they have good visions and perspectives about many things and they should be used more to give ideas and opinions. Participating more in the contractors' occasions and on the other hand inviting the contractors to VNDF's occasions could also increase the interaction. The contractors have wished this kind of cross-inviting, which is without a doubt one element in the partnership. VNDF should also give the contractors a message that if they have some issues that they wish to be discussed and developed they should bring them up and always propose a meeting. The intentional interaction improves the flow of information and lowers the threshold of bringing issues up instead of handling them via the IT-systems. The continuous interaction also improves the chemistry of the cooperating people, which is a one important factor in the success of the partnership.

Increasing the interaction has many benefits. It basically links to everything in a successful partnership. The information flow improves and the objectives of the partnership become clearer. The interaction improves mutual understanding of another's business and processes. It also improves the comprehension of the whole process, the whole partnership network and the meaning of the mutual end-customer. Intentional interaction communicates the future demands and changes earlier and VNDF learns more about the relationships between the contractors and about the subcontractors that do not have direct relationship with VNDF.

The problem in the increasing of the interaction is that it demands quite much resources from VNDF. But when the interaction is intentional and it has objectives there will also be results. The interaction must be planned according to the partnership strategy of VNDF. VNDF should also intensively increase the interaction with the partners who have a potential to develop. Overall, when the partnerships develop, VNDF must go closer to the partners. Hints of this development can already be seen in VNDF. For example, the take care of customer response process has written as one of

its objectives that it wants to deepen the cooperation with the contractors and ask ideas from them to create better services functions to the customers.

6.4.3. Transparency

The contractors have wished more punctual, transparent and expectable management. The mutually defined partnership strategy and the increased interaction will definitely improve the situation and enlarge the transparency of the management. This means that the contractors will know the next step earlier. They will also know how to prepare, where to invest and how to focus resources.

The characteristic features in this business are the seasonal variation of works and different schedules. Summer is clearly the busiest time and winters is noticeable more quiet. The new connections have tight schedules as the maintenance works are given loose schedule frames to execute. The contractors know that these characteristics will always be in this business so they have wished more transparency to the ordering of the projects, works and tasks, which is one aspect in the management of the partnership network. The contractors have said that transparent and punctual ordering of works is one of the cornerstones of the partnership and its management in this business branch. The earlier the contractors get the information about the workloads and the needed resources the better they can plan and control them. The contractors have said that it will improve the efficiency, productivity and have influences all the way over the work quality. Some have stated that developing this transparency will lower the contracting costs due to better work and resource planning. So this is definitely a thing to notice and develop in VNDF.

VNDF has already noticed this and is developing an annual clock, which defines the phases of the ordering process from the planning of project to the ordering and project execution on a time schedule. For example, it tells when the projects of the yearly investment program will be tendered, ordered and when they must be ready. It also tells when the yearly maintenance works will be ordered and what their timeframe is. There is still some development to do and the defining of it will also be carried out with the contractors so that the most significant factors in contractors' perspective will be included. The purpose is that VNDF will commit itself to the annual clock and it will be presented to the contractors as a partnership promise.

The contractors see this annual clock as an excellent step towards a better transparency. Though, the contractors have said that the processes must not get stuck in the form of the annual clock but the actions and the clock must be developed continuously. The contractors also hope that the clock will not limit the possibility to singular arrangements if needed.

The best way to build the transparency to the management is the increasing of the interaction but creating these kinds of tools brings the needed systematic elements to the building of it. The focus on the building of the transparency will not be wasted. Because the contractors have indicated that the transparency of the management has efficiency improving impact.

6.4.4. Visibility

The old saying goes “when the cat is away the mice will play”. This can roughly be connected to the partnership network management, basically to any management. There must always be a certain visible control, management, which makes sure that the network operates and its actions are consistent to reach the targets. A purely chaotic partnership network will disperse without a common line and a management that makes sure that the line is followed. As stated in this thesis, the management of partnership networks should define the limits but leave space to the partners in order to enable development. Though the partners are given the space, the management must be visible so that the partners see and know it. This is not a problem in the partnership network of VNDF because at the moment the management, in some actions, is at a quite operative level and VNDF is developing it towards a model that gives more freedoms to the contractors.

Another perspective that links to the visibility of the management, by referring to the above mentioned saying, is that if the cat is out of sight and even if the mice are not playing, the cat’s owner will start to wonder if the cat is doing its job. The management must be visible also when thinking the VNDF’s own organization. The construction contracts and projects team which is responsible for the management of the contractors must inform other teams and units of VNDF about the management and create a visible and strong role both in the partnership network and internally in VNDF.

The contractors have given feedback that VNDF must also participate in the development of different actions because it cannot be just contractors’ responsibility. Naturally, VNDF understands this mutual development and is executing the development also in its own processes so that they would support the partnerships even better. The management must communicate and bring the done development actions visible to the contractors. This does not seem so important but has a big impact on the trusting environment of the partnership.

6.4.5. Other

The theoretical part of this thesis pointed out that to be able to successfully manage the individual partnerships and the whole partnership network one needs some kind of a measuring system. VNDF has performance measuring and following systems for its contractors and the purpose is to develop them further. VNDF has decided to define a scorecard for its annual contractors and one of the objectives of this thesis was to create it. So this development need is already noticed in VNDF. The created partners’ scorecard is described in the chapter seven. The scorecard as a management tool combines all the fundamental aspects of the partnership network management. Also, it is a partial solution to the all developed needs specified earlier. The scorecard crystallizes the strategy and the objectives of the partnership, measures the success of the strategy and it improves interaction when mutually evaluated. The scorecard builds transparency to the management when the contractors know what is expected and the

performances are systematically analyzed. It also improves the visibility of the management. With the help of the scorecard the performances of the partnership network and the done management actions are easy to inform to VNDF's own organization.

One thing that VNDF should examine and consider to test is the so-called volume management. The volume management could be used in bigger projects like in maintenance and repairing of all certain electricity network components in the whole distribution area of VNDF. The project would have two chosen contractors and the project would be divided into three parts. Then one third would be ordered from each contractor and the contractors' performances will be followed and evaluated. Then the last third would be given to the contractor who has performed better in their own third. When asking the contractors' opinions about this kind of arrangement they have been quite interested and willing to examine it. They have said that this would for example bring the quality and efficiency to really a practical form. It would be easy to launch this to the blue-collar workers so that if they do this really well, they would get more work. The project must be big enough so that the last third is tempting. Also the meters, which will be used to follow and evaluate the performances, must be well considered. In addition, the projects' thirds must be alike so that one contractor cannot get advantage from an easier third. This volume management is an easy way to steer contractors' actions to the wanted way in single projects. For example, if VNDF wants to minimize the interruptions caused by the maintenance in the delivery of electricity, the meter of work caused interruptions could be included to the evaluation.

Another thing that VNDF could consider to make a habit are a regular internal partnership evaluation meetings. Digita Oy (later Digita) has developed a good practice for this as a part of management of their system suppliers. VNDF could use a same kind of an approach. Digita is the leading Finnish distributor of radio and television services, and an important developer of data communication networks and network infrastructure. Digita has named a responsible person for every supplier who regularly gathers the people from Digita to an internal supplier-evaluating meeting. These people have cooperated or are cooperating with the concerning supplier. The evaluating meeting basically forms a systematic SWOT analysis and defines the supplier's strengths, weaknesses, opportunities and threats. The meeting also analyzes the supplier's quality performances, flexibility, innovativeness and competitiveness to mention a few. In addition, the suppliers' competitors and possible substitutes are defined and the future possible purchases from the supplier are discussed. One interesting part of this evaluation is that it tries to define the supplier's contact persons', managers' and sellers' type of personality in order to find the right personal chemistry and the best approaches for negotiations. These evaluation meetings are systematically documented and the development of the suppliers is followed. This all works as a base for the management of the system suppliers. It defines how and to what direction the cooperation is continued and developed. (Salomäki 2009)

This same kind of an evaluation meeting would definitely be useful in VNDF, as well. Systematic defining of the things about the contractors would be beneficial to many purposes. For example, it would give a great overall view of a contractor to a new person who is starting to cooperate with them. Also, hearing the opinions from all the people that are operating with the concerning contractor, would definitely increase the needed visibility of the management in VNDF's own organization.

6.5. Future

It seems promising when thinking of the future of the partnership network management in VNDF. The current state of the management is good and if the development needs pointed out in the previous chapters are noticed the management will be exemplary. With the exemplary management the whole partnership network develops towards the wanted direction, which is the whole point in developing of the management. The fact that VNDF is intentionally and on a quite fast phase developing its partnership network management reveals the pioneer role of VNDF in this branch of business.

It seems that the biggest challenge in this management for VNDF is to clarify the internal partnership network strategy for itself. Naturally, this strategy develops and changes because it is a continuous process, but when the basic lines are systematically drawn, getting those all to way to the individual partnership level will most likely be quite easy. The other significant challenges relate to seeing the whole picture. The understanding of the whole partnership network, the mutual processes and the mutual end-customer must be ensured in the contractors' organizations but also in VNDF. If the development needs are noticed, the tools to overcome these challenges already exist.

The challenges of the future will be to create true systematic actions to the management. For example, systematic analyzes of the contractors' performances and systematic steering actions for those are needed. But in the end, the truth is, that the management must be customized to every partner and to every situation. The certain level of systematic actions builds the base but skilful management includes recognizing of the situation and adjusting to it.

One thing that VNDF should remember is that all the experts say that the management does not need to be engineered science; simple can also be beautiful and functional. The management does not need to have very sophisticated tools and, in many cases, the simpler the better. For example, when VNDF starts to create these individual partnership strategies, they do not need to be very complicated and refined at the first step. The intentional and systematic defining of them with a strong interaction will bring good results.

An interesting perspective to the future of the partnership network management is how the contractors will highlight their role and how they will try to influence on VNDF. Basically, it is interesting to see the contractors starting to define and handle their customer relationship. In the end, VNDF is their customer and partner. The perspective of the partnership must not be stuck only in one direction.

7. PARTNERS' SCORECARD

Already for a long time Vattenfall Distribution Nordic Finland (VDNF) has used a scorecard as a strategic management tool for its own personnel. Every process and team working in the processes has their own scorecard, which are analog to the VDNF's strategy and its own scorecard. VDNF's contractors are seen more and more as a team that operates in the same processes that the VNDF's own teams. In many cases, the contractors are a significant part of VNDF's processes so their actions should be ensured and developed like a part of the own organization. VNDF has good experiences of using the scorecard to manage and steer its own actions and teams, so to widen this thinking to the contractors is a natural continuation.

One of the objectives of this thesis was to create a partners' scorecard to VNDF's annual contractors. This chapter presents this scorecard and already discusses some of its future development needs. The purpose of the scorecard is to be a feedback and strategic management tool for VNDF's annual contractors and for the whole partnership network that they form. The goal is to give them the guiding frames but to leave moving space in order to enable development.

7.1. Background

Vattenfall has a relatively long history with the scorecard. After the opening of the electricity markets in 1994 Vattenfall Oy was founded in Finland. In the year 1995, Vattenfall Oy purchased two distribution network operators, Lapuan Sähkö Oy and Hämeen Sähkö Oy and started to delivery electricity. In the year 1997, Vattenfall took BSC in use for these two companies. These scorecards were only meant for the company level, so they were not applied in team and employee levels. Vattenfall Verkko Oy, Vattenfall Distribution Nordic Finland was born in 2002 after a couple of more company purchases and reorganizations according to the demands of the electricity market laws. Since its birth in the year 2002, VNDF has used scorecard as management tools for its own personnel and processes. The year's 2002 scorecard was like the Kaplan & Norton's original BSC with four perspectives: financial, customer, internal process and learning and growth perspective. In 2003, human resources and management perspective was added. Since 2006, the scorecard model has been value driving scorecard (VDSC). In addition to the BSC's perspectives the VDSC divides the meters to energizers, enablers, value drivers and outcomes to highlight and clarify the meters causal connection. (Luomanen 2009)

VNDF's contractors' performance has been measured since the year 2004. Their performance has been measured with quality of work index, delivery date index and

customer satisfaction index (CSI). These all are very traditional lagging hard indicators and do not have a very deep developing and steering influence. Naturally these are important and almost obligatory KPI meters for contractors and service providers but they miss the opportunity to align processes and human and information capitals to enhance partnerships' performance. Also the KPI meters do not represent and communicate well the chosen strategy. VNDF's process developers and managers decided to create a scorecard for annual contractors to serve the needs of the partnership network management. The scorecard communicates the strategy and the objectives to the annual contractor partnership network and includes soft development meters that steer operations anticipatory. The scorecard helps the contractors understand VNDF's processes and their roles in those. The chosen design of the scorecard was naturally the same than as in VNDF's own scorecards, in other words the value driving scorecard but the meters are not separated visibly to different perspectives.

The preparations for the annual contractors' scorecard started when the new annual contracting contract was prepared for the period 1.8.2008 – 31.1.2011, plus option years. The invitation of tenders included and now the contracts include a part where the contractors commit themselves to take a scorecard, which meters VNDF defines, in to use. The written purpose of the scorecard is to be a steering tool for the development of the operations and processes. The scorecard is a tool to measure the partnerships' performances but above all its purpose is to develop the partnerships with the annual contractors.

7.2. Starting point

Since 2004, annual contractors' performance has been measured and from the beginning of 2005, they have received monthly quality report about their performances in quality of work index, delivery date index and customer satisfaction index (CSI). The contractors' performance in this quality report has an effect on their tenders. Poor previous performance lifts the contractors' prices with two percents and good performance lowers their prices with two percents. So the quality is converted to money. When comparing contractors' tenders of some projects, the well-performing contractors can have up to two percentage higher prices and still be on the same line with the others. The quality report has had a good effect on contractors' actions and it has improved the contractors' quality. The contractors' performances have varied depending on their company culture. The quality report has succeeded to highlight the meaning of the quality and it has decreased these differences in the contractors' performances.

In order to develop the operations and getting all the benefits from the partnerships, a scorecard was decided to define for the annual contractors. It was planned to build on the basis of the quality report. The scorecard enables bringing the development meters along and forces the contractors to focus on the meters and development. As discussed in chapter six, VNDF's intention is to publish a mutual

strategy for the annual contractor partnership network and for the individual partnerships in cooperation and interaction with the annual contractors. Before that, the defining of the scorecard is based on VNDF's own vision, strategy and the needs of the processes, which gives a good base to start.

The year 2009 is a test year for the scorecard and all the annual contractors have the same meters. The goal is to start simple; test the functionality and communicate the purpose of the scorecard. The annual contracting contracts include a part where it is said that with a good performance in the scorecard the contractors have a possibility to reach a bonus of two percentages from the yearly turnover of each contracting area. The purpose of the bonus is to give it down to the worker level where it is estimated to be up to six percentages of the installers' salary. This bonus should boost the anticipatory strategic steering effect of the scorecard. The year's 2009 scorecard does not include this possibility because the functionality must be tested first in order to notice and avoid unwanted impacts.

7.3. Meters

The defining of the scorecard's meters started on the basis of the quality report. The quality of work index also called acceptance inspections index, delivery date index and customer satisfaction index were seen as necessary KPI-meters. Undeniably, these meters are crucial when measuring the operational performance of the annual contractors. Processing and reporting of these meters were developed and then applied to the scorecard.

Other meters were defined with VNDF's process developers and managers. The needs of the VNDF's own processes were discussed and recognized. Also, the discovered areas of annual contractors that need to be developed influenced. In addition, one occasion was arranged where the managers of the annual contractors were able to discuss and give suggestions about the meters of the scorecard.

As mentioned earlier, the meters are connected to the VNDF's own vision and to the elements of the vision. VNDF's vision is to be easy, effective and trusted. Easy, means that it is easy to be a customer at VNDF. In other words, VNDF is easy to reach and easy to talk to, and in addition, competent and always willing to help. Effective stands for that VNDF's way of working contributes to efficient business operations, short lead times, high quality of delivery and seamless co-operation with internal and external partners. This results in high customer satisfaction. Trusted signifies that VNDF has a solid reputation in society and that all stakeholders have a high level of trust in VNDF. With the help of the scorecard, VNDF wants to ensure the easy, effective and trustful process-flow, starting from the customer, through the partnerships', and all the way back to the customer.

The vision to be easy, effective and trusted is divided into five elements, five ambitions to be number one; see Figure 7.1. VNDF wants to be number one for the environment, customer and employees. It also wants to be number one in the business

branch and number one when observed the continued profitable growth. (Vattenfall Nordic Distribution 2008)

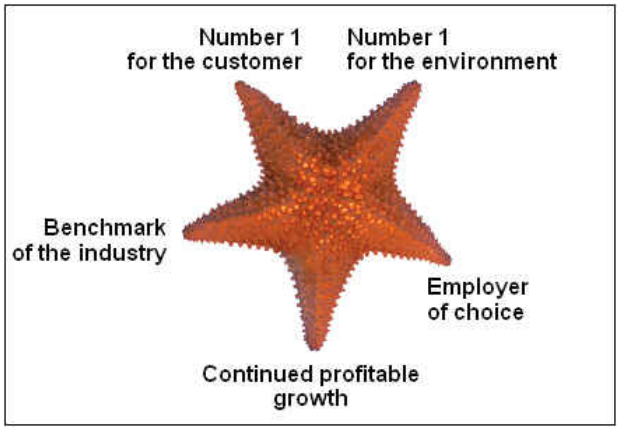

Figure 7.1. *Five elements of the VNDF's vision. (Vattenfall Nordic Distribution 2008)*

The created scorecard for the year 2009 has nine meters. Four developing project meters: accidents and close calls, development ideas and feedbacks, environmental management system and Vattenfall partnership. These meters are development projects for annual contractors whose completion is followed with the scorecard. The goal is to carry out these projects and fulfill their demands according to the schedule. The last five meters are statistic performance indexes with target levels: acceptance inspections, fault repair costs, interruption time, customer satisfaction and delivery date. These meters are called hard meters. Annual contractors' performances in these meters are reported to them in monthly quality reports. Achieving the target levels and wanted development is followed with the scorecard. All these nine meters are presented more in detail in the following chapters.

7.3.1. Accidents and close calls

Accidents and close calls is the first project meter. The principle of zero accidents is the mutual goal of VNDF and its annual contractors. It was also a mutual wish to create a meter to develop this area. This meter connects to the VNDF's vision element to be the employer of choice. Improving the safety of VNDF's own personnel and the employees who work indirectly to VNDF is naturally the state of will.

The purpose of the meter is to ensure that all the accidents and close calls are reported and processed correctly in order to make the constant developing and learning possible. Close calls are situations where someone has noticed or experienced a risk or possibility to an accident. The accident has not happened but there has been a possibility that something might have happened. The accidents are reported quite well because of the obligations of the law and insurances but in general the amount of close call reports is too small in the electricity network building and maintaining. The statistic rule of thumb is that there should be approximately 600 close call reports for every serious accident; see Figure 7.2 (Työkirja tapaturmien tutkimiseen 2001). Getting these close

call reports from every situation is crucial to the development and learning. Hopefully with the help of this meter VNDF will get more close call reports. The reporting of the accidents and close calls is done via IT-systems. VNDF collects all these reports together from every contractor and creates a safety bulleting. The safety bulleting includes a short description of accidents and close calls and also a conclusion of what is learned from each situation to avoid it in the future. This bulleting is sent to every annual contractor so that everyone within the partnership network can learn from other's situations.

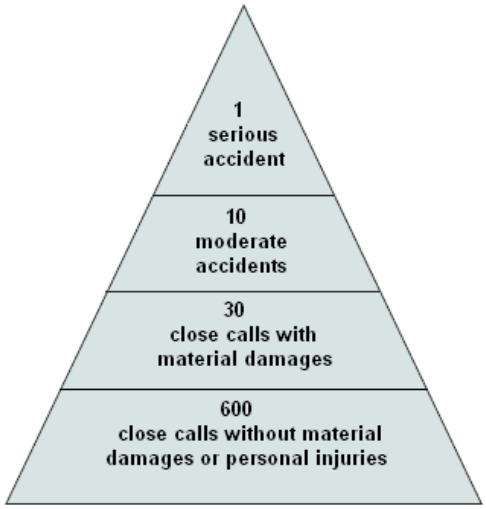

Figure 7.2. *Accident pyramid. (adapted from Työkirja tapaturmien tutkimiseen 2001)*

The actual demands of the meter for the contractors are divided into four parts:

- Commitment:
  Every situation must be reported and the supervisors must demand a report from every situation. Management must create a "not who did, but why did it happen" culture to its organization. The VNDF's safety bulleting is discussed in the organization.
- Right reporting process:
  All the employees know the right notification channel, who to and how to notify. People handling the reporting process know the right procedures. Report channel and reporting time instructions must be followed.
- Handling the reports:
  Organization has its own process for going through the reports, for example "what did we learn from this -report".
- Following the results and developing:
  Management is committed to follow the results and define development targets. Organization participates in improving this reporting process together with VNDF and other contractors.

The scorecard's meter follows the realization of the listed demands. The schedule of this meter is to fulfill the demands by the end of the year. It is also stated that it is possible that VNDF will do auditing to some of the annual contractors and see if the things are working in practice in their organizations. This auditing is possible to do concerning every four developing project meters.

7.3.2. Development ideas and feedbacks

The second developing project meter is called development ideas and feedbacks. The purpose of this meter is to make sure that all the development ideas, feedbacks and reclamations are collected and processed and that the processing is done correctly. This meter connects to the VNDF's vision element to be the benchmark of the industry. Gathering all the feedbacks and development ideas from the partnership network and using them to develop the processes enables this vision.

The meter demands using the right channel for the feedbacks and reclamations so that they will not vanish in the endless electronic mail pile. The right channel also makes it possible to follow the path and time of the reclamation so that it must be processed rightly. This meter also aims at improving the feedback channel from the end-customer. A successful customer contact is a combination of many factors, especially in the networked business. In many cases, the annual contractors have a direct intercourse with the end-customer and they get direct feedback about VNDF's actions. Getting this direct feedback all the way to the VNDF is a one challenge in this meter too.

The demands of the meter for the annual contractors are as follows:

- The whole organization knows how the process works, how to deal feedbacks and reclamations that are directed to own organizations, and how to give feedback, reclamations and development ideas to VNDF.
- The pointed IT-channel must be used and the channel and reporting time instructions must be followed.
- Organization participates in improving this channel and process together with VNDF and other contractors.
- The further processing of the feedbacks and reclamations is ensured in own organization and the development targets are defined.
- The contractor must create a tool or some kind of a process to gather feedbacks, development ideas and innovations from the end-customers or from elsewhere in the partnership network and bring those up to VNDF to develop the actions.

As in the accidents and close calls meter this meter follows the realization of the listed demands and the schedule is to fulfill the demands by the end of the year. VNDF's intention is to develop the feedback IT-channel and make it less heavy to use. Also, it is planned to include some statistic tools into the channel in order to help to recognize the processes' bottlenecks.

7.3.3. Environmental management system

Environmental management system is the third developing project meter. VNDF wants to be number one for the environment and the purpose of this meter is to ensure that this vision element also realizes in the partners' actions. This meter makes sure that the annual contractors take environmental issues into account with their own environmental system. The annual contracting contracts include a part where is said that contractor must have its own environmental management system. The contractor must demonstrate preventative actions to minimize environmental risks and it must describe the actions in case of different environmental accidents. The contractor is also responsible for that its subcontractors work according to this environmental management system.

So the demands of this meter are already in the annual contracting contracts but the meter makes them more concrete. The meter follows the realization of the environmental management system and the schedule is to present a documented system to VNDF in the end of the third quarter of a year. The environmental management system does not need to be certificated but it must be in line with VNDF's certified ISO 14001 standard. During the fourth quarter of a year, some annual contractors' environmental management systems will be audited by VNDF and the noticed remarks must be corrected.

When tendering construction projects VNDF will increasingly attach a demand of environmental survey. A contractor must detect and document the possible environmental risks of the project and show its actions to avoid those risks. So among other things, fulfilling the demands of this meter or in other words having the environmental system, supports well these individual project environmental surveys.

7.3.4. Vattenfall partnership

The last and fourth developing project meter in the year's 2009 scorecard is called Vattenfall partnership. The intention of this meter is to develop the mutual partnerships between the annual contractors and VNDF. The meter connects to the VNDF's vision element to be the benchmark of the industry. Creating exemplary partnerships with contractors enables this vision.

One of the thoughts behind this meter is to have it in the future year's scorecard too, but to vary its contents and demands. The demands of the meter for the annual contractors for the year 2009 are as follows:

- VNDF cooperation partner identification cards must be used visible and every worker must have it. This is as sign for customers that the contractor is working for VNDF. Every card has an identification number that is linked to the person carrying it.
- Every installer and construction worker of the contractor working with VNDF projects must have at least a valid first aid and job safety card in addition to compulsory cards according to the law.

- The competence information of contractor's employees must be updated and maintained regularly to the IT-systems. This is needed for example in the situation of outages when the VNDF's control room operators must be able to see if the installer is qualified to repair the outage.
- The installers of the contractor must always have VNDF service cards with them to be able to hand them out to the customers. The service card includes all the important contact information of VNDF.
- The installers of the contractor must have a basic knowledge of the VNDF's contact information and services in order to be able to serve and inform customers.
- The installers of the contractor must have a tool or some kind of a process to gather feedbacks, development ideas and innovations from the end-customers or from elsewhere in the partnership network and bring those up to VNDF to develop the actions. This demand was also in the development ideas and feedback meter.

Like in the other developing project meters this meter follows the realization of the listed demands and the schedule is to fulfill the demands by the end of the year. The auditing is possible as well. As mentioned before, the plan is to keep this meter as a part of the scorecard in the future, but the purpose is to develop its contents at the same phase as the partnerships develop.

7.3.5. Acceptance inspections

The first hard meter is called acceptance inspections. It is a statistic performance index that is also called as quality of work index. This index has been measured since the year 2004 and reported in quality reports. Now the processing and reporting of the index is developed and then applied to the scorecard as a meter. This meter measures the quality of contractors' works noticed in acceptance inspections. The purpose of the meters is to supervise and develop that quality. The meter connects to the VNDF's vision element to be benchmark of the industry. Top quality of the electricity network is always the goal.

VNDF does several random acceptance inspections to different projects of different contractors. Every inspected project gets a grade between 5 and 0 according to the quality of work. Contractors can get quality remarks on five different categories: environment, technical quality, documentation, markings and safety. If the work is exemplary and there is nothing to remark, contractor gets a grade five from that project. If the contractor gets a remark from one category then the grade is four and so on. If there is something to remark in every category then the grade is zero. Every grade and remarks are documented to the project in the IT-systems. The average of each contractor's grades from all the projects is calculated and turned in to percentage index with formula 7.1 where the grade average 5 is 100 percentages and the grade average 0 is 0 percentages and so on.

$$Quality\ of\ work\ index\ \% = \left(\frac{Grade\_average}{5}\right) * 100 \qquad (7.1)$$

The annual contractors' individual quality of work index is reported to them in monthly quality reports. The report includes all the individual information from the IT-systems about every acceptance inspection. It also includes summaries about the quality index per contracting area and per contractor's work supervisors. From the table 7.1 one can see an example report of contractor A's quality of work index per contracting area and supervisor. The annual contractor of the example has two contracting areas Axx and Ayy. The contractor's total quality of work is reported as rolling 12-month index and also as one-month index, which consist of the inspections of the particular month; see Figure 7.3. The one-month index is important because it reveals more clearly the performance changes while in the rolling 12-month index they can vanish in the large amount of works.

Table 7.1. *Quality of work index per contracting area and supervisor.*

Rolling 12-month average				
Contractor	**Contracting area**	**Work supervisor**	**Total average**	**Index %**
Contractor "A"	Axx	Supervisor 1	3,92	78
		Supervisor 2	3,94	79
		Supervisor 3	3,50	70
	Axx Total		**3,79**	**76**
	Ayy	Supervisor 4	5,00	100
		Supervisor 5	4,78	96
	Ayy Total		**4,89**	**98**
Contractor "A" Total			**4,34**	**87**

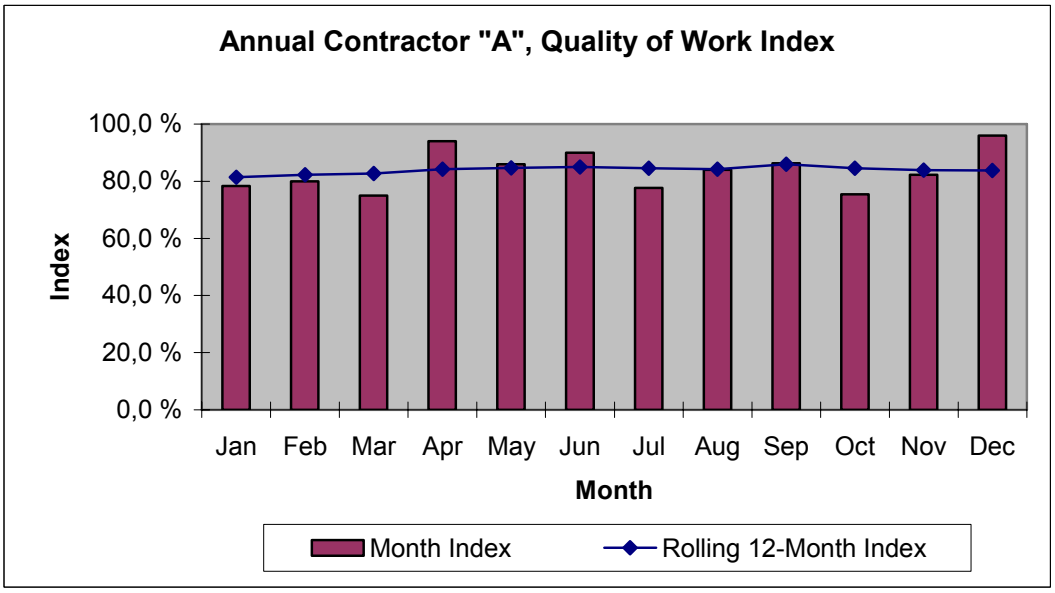

Figure 7.3. *Quality of work index.*

The rolling 12-month index is the acceptance inspections meter of the scorecard. The scorecard defines the target level of the index. The performance in this meter is reported to the annual contractors in monthly quality report but the achieving of the target level and wanted development is followed with the scorecard. The purpose of this meter is to supervise and develop the contractor's work quality. Having this meter in the scorecard also highlights the matter and forces the contractors to focus on it. VNDF's intention is to reduce the amount of these random acceptance inspections but to increase their accuracy and quality. With the help of these inspections and this meter VNDF can manage the contractors' quality of work.

7.3.6. Delivery date index

Delivery date index is the name of the second hard meter. Like acceptance inspections it is a statistic performance index that has been measured since the year 2004 and reported in the quality reports. Also as well when building this scorecard, the processing and reporting of the index was developed and then applied to the scorecard as a meter. The meter measures how well the contractor's projects and tasks are completed on the schedule and the purpose of the meter is to supervise it and develop the actions so that the schedules hold even better. This meter connects to the VNDF's vision element to be number one for the customer. Naturally, the fact that how well the projects are completed on the schedule has a direct influence on customers' satisfaction. For example, if a customer's that is building his house new connection is overdue then the whole building projects is delayed because of the lack of the needed construction electricity. And if that happens, the customer will be dissatisfied without a doubt.

VNDF follows and compares the scheduled completion day and the actual completion day. This schedule following of electricity network construction and maintenance projects and the correction of the acceptance inspection notifications is done via IT-systems. The projects and the correction of notifications are divided to four different statuses: unfinished, unfinished and overdue, finished overdue and finished on the schedule. An individual contractor report of the number of projects and tasks in each status is gathered from the IT-systems and then the delivery date index is calculated with formula 7.2. The index describes how many percentages of the work have been completed on the schedule.

$$\textit{Delivery date index \%} = \left[1 - \frac{(A+B)}{(A+B+C)}\right] * 100 \tag{7.2}$$

Where:

- A number of projects and tasks that are unfinished and overdue
- B number of projects and tasks that are finished overdue
- C number of projects and tasks that are finished on the schedule

The reporting of the delivery date index is very similar to the quality of the work index. The individual delivery date index of the annual contractors is reported to them in the monthly quality report and the report includes all the individual information about the schedule status of each project and task. Like in quality of work index the report also includes summaries about the delivery date index per contracting area and per contractor's work supervisors. The contractor's total delivery date index is reported as a rolling 12-month index and also as a one-month index, which consist of the projects and tasks whose completion day is specified to the particular month; see Figure 7.4.

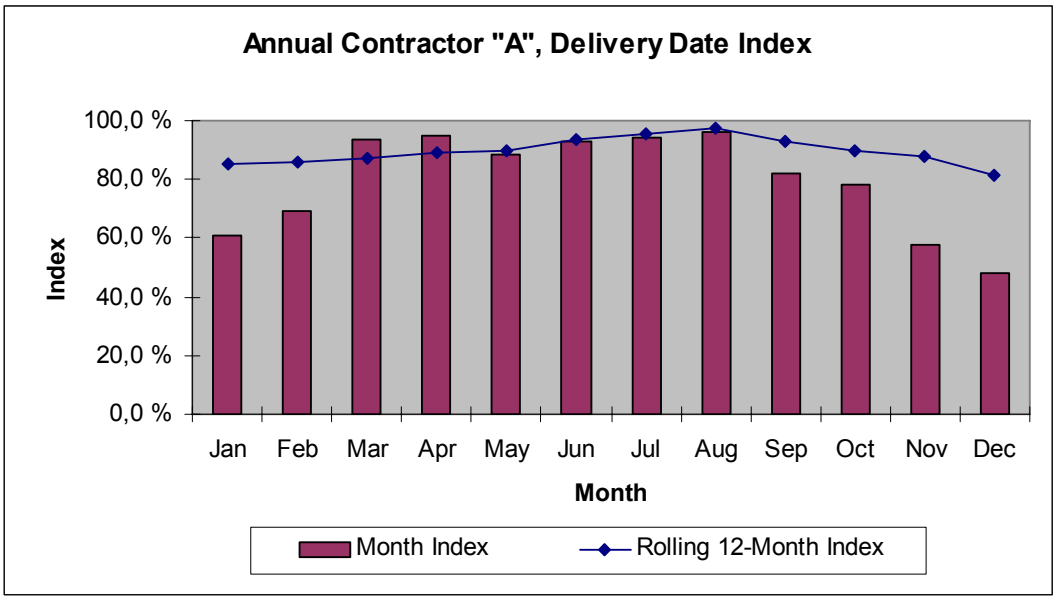

Figure 7.4. *Delivery date index.*

The rolling 12-month index is the scorecard's delivery date index meter. The target levels are defined in the scorecard and achieving of the wanted development is followed with it. Naturally the demand of holding on to the schedules is also in the annual contracting contracts. There is a defined delay fine and the contractor has to also pay all the extra costs that the delay causes, for example costs that VNDF has to pay to the customers or to the third parties according to other contracts and regulations. Despite these delay fines, the performance level of some annual contractors varies. The purpose of this meter is to supervise and develop the contractors' performances and actions and also to even more highlight the importance of this matter. The meter forces contractors to focus on it and to define development targets in their own actions to improve their performance. This is discussed later in the scorecard's navigation chapter.

7.3.7. Fault repair meters

The following two hard statistic performance meters are fault repair meters: fault repair costs index and interruption time index. When the scorecard was defined, the VNDF's outage management process wanted meters that would measure the annual contractors'

efficiency in fault repairing. These fault repair costs and customers' experienced interruption times in electricity delivery were already internally measured in VNDF so their reporting to contractors was developed and the meters' specification done and then applied to the scorecard.

The first meter, fault repair costs, measures the contractor's average costs of repairing of a fault in the electricity network. The measuring is based on to the contractor's billing and it does not include material costs. All the information is received from the IT-systems. The average repair cost, euros per fault, is calculated for threatening faults, low-voltage network outages and medium-voltage network outages. The total average fault repair cost of the contractor is calculated from all of the three. The threatening faults are faults that have not yet caused an outage but most probably will cause if not repaired, for example a tree leaning on to an overhead line. The purpose of the meter is to supervise the costs, make them equitable and stimulate the contractor to more efficient actions. The meter connects to the VNDF's vision element continued profitable growth. Improving the effectiveness and quality of the services is one step towards that.

The second fault repair meter, interruption time, measures the contractor's average fault repair time. The repair time is defined to be customers' experienced interruption time in electricity delivery per fault. The reports are received from the IT-systems. The average fault repair time, hours per outage, is calculated for low-voltage network and medium-voltage network outages. The total average fault repair time of the contractor is calculated from both of these. The purpose of this meter is to supervise the fault repair times and to develop the actions so that the customers' interruptions are minimized. The meter connects to the VNDF's vision element to be number one for the customer. Minimizing the customers' losses and inconveniences caused by outages is one of the VNDF's most important goals. In the beginning of the year 2009 VNDF's launched a customer promise where it is said that VNDF pays voluntary compensation to customers if their outage has lasted over six hours. The law demands the compensation if the outage has lasted more than twelve hours, so VNDF has higher demands to its own actions than in the business branch in general.

The individual fault repair costs and the interruption times are reported to the annual contractors in the monthly quality report. The report includes all the average information per fault type except the weather storms and other extraordinary phenomena are excluded from the report. The numbers are reported as a rolling 12-month index and also as a one-month index, which consist of the faults in that particular month. The report also separates the information per contracting area. In the table 7.2 can be seen a random numbered example of the report of the contractor A. Contractor A has two contracting areas Axx and Ayy. The orders are number of faults which repairing VNDF has ordered from the contractor. The monthly quality report also includes the table's 7.2 information in figures.

The actual scorecard meters are fault repair costs index and interruption time index. The indexes are got when the annual contractors, nine companies, are put to

ranking order comparing the total rolling 12-month averages. The company with the shortest interruption time gets the rank one and the company with the longest time gets the rank nine and all the rest between. The fault repair costs works the same way, the company with the lowest costs gets the rank one and the company with the highest costs gets the rank nine. Then the ranks (1-9) are transformed to percentages, where the rank one is 100 percentages, rank two is 87,5 %, rank three 75 % and so on. The rank nine is zero percentages. So instead of defining target performance levels, the scorecard defines target ranks for the contractors. This ranking based index was created because, VNDF wanted to create a true challenge for the contractors development. VNDF follows the development of contractors' performances and will find out the target level, which is the wanted optimum between the costs and interruption time. So, the purpose in the future is to define actual numerical target levels for these meters.

Table 7.2. *Fault repair cost index and interruption time index (numbers are random).*

Annual Contractor "A"		Rolling 12-month			Last month	
		Axx	Ayy	Total	Axx	Ayy
Threatening faults	Orders	120	110	**230**	40	30
	Euros	20 000 €	10 000 €	**30 000 €**	5 000 €	6 000 €
	€/order	167 €	91 €	**130 €**	125 €	200 €
Low-voltage network outages	Orders	60	40	**100**	20	20
	Euros	10 000 €	8 000 €	**18 000 €**	5 000 €	4 000 €
	Average duration (h)	1,40	1,81	**1,61**	1,10	1,70
	€/order	167 €	200 €	**180 €**	250 €	200 €
Medium-voltage network outages	Orders	20	20	**40**	5	10
	Euros	5 000 €	4 000 €	**9 000 €**	2 000 €	1 000 €
	Average duration (h)	1,29	1,63	**1,46**	1,06	1,47
	€/order	250 €	200 €	**225 €**	400 €	100 €
All orders, total	Orders	200	170	**370**	65	60
	Euros	35 000 €	22 000 €	**57 000 €**	12 000 €	11 000 €
	Average duration (h)	1,35	1,72	**1,53**	1,08	1,59
	Position, Interruption index			**6. = 37,5%**		
	€/order	175 €	129 €	**154 €**	185 €	183 €
	Position, Fault repair costs index			**8. = 12,5%**		

As mentioned before, the fault repair costs meter aims at making the costs equitable but the meter and reporting also includes another development target. VNDF's objective is to order the whole fault repairing from the annual contractors just by using three work units. The units are planned to be same as in the report: threatening faults,

low-voltage network outages and medium-voltage network outages. The contractor negotiates prices to every unit with the VNDF and then the repairing of one fault is ordered with one unit depending on the type of the fault. The units include all the costs for example travel costs, excluding the materials, which the repairing of the fault causes, regardless of the time or date. VNDF already has pilot projects about this procedure with some contractors and the purpose is to take it into use with every contractor. The reporting of fault repair costs meter shows the contractors what their performance is and enables them to seek the factors that influence their unit costs and performance. This makes it easier to negotiate about the fault repair units in the future.

The purpose of the interruption time meter is to minimize the interruption of electricity delivery to the customers. The meter leaves free hands to contractor to do that. So another purpose of this meter is to stimulate contractors to create new working methods and to develop their actions which benefit everyone.

All in all, the intention of these fault repair meters is to supervise and develop the contractors' performances and actions and, in addition to even more highlight the importance of this matter. For the public and the customers, the faults and their repairing is maybe the most visible and public part of the actions of the electricity distribution operators. As in other meters the fault repair meters in the scorecard forces contractors to focus on the matter and to define development targets in their own actions to improve their performances.

7.3.8. Customer satisfaction

The last hard meter is the customer satisfaction index (CSI). Like acceptance inspections and delivery date index it has also been a part of quality reports before. Though, it has earlier been much more simplified. Now, at the same time when the index was attached to the scorecard, the customer questionings and their reporting were renewed. The surveys are more comprehensive and the results are reported to contractors wider and more in detail. The purpose of this meter is to supervise and develop the customers' satisfaction with contractors' actions. Naturally, the meter connects to the VNDF's vision element to be number one for the customer.

VNDF does many kinds of customer surveys and from the new connections and fault repair customer surveys the questions that concern the actions of the annual contractors are picked. Customers give a grade to every question between 5 and 1, where 5 equates the best and 1 the worst. Average grade is calculated for every question and specified for each particular contractor's contracting areas. The total CSI is the average of new connections CSI and fault repairing CSI. The total average grade is transformed to percentage index with formula 7.3 where the grade average 5 is 100 percentages and the grade average 1 is 0 percentages and so on.

$$Customer\ satisfaction\ index\ \% = (Grade\_average - 1) * 25 \qquad (7.3)$$

The individual customer satisfaction index of the annual contractor is reported to them in every quarter of the year after a new CSI survey has finished. The results are reported in the quality report. The reporting can also include free written feedback from the customers if they have hand some over. From the table 7.3 one can see an example of a report of the annual contractor A. Contractor A has two contracting areas Axx and Ayy. The indexes are reported cumulative since January 2009. The average total CSI in percentages is the scorecard's customer satisfaction meter. The scorecard defines the target level of the index and the achieving of this target level and wanted development is followed with it.

Table 7.3. *Customer satisfaction index.*

Annual Contractor "A"	Axx	Ayy	Average
New Connection Customers CSI:			
How pleased are you with the service from the installer?	4,5	3,6	4,1
How well did the work keep its agreed schelude?	4,3	4,3	4,3
How pleased are you with the building of your new connection?	5,0	3,8	4,4
How pleased are you with the cleaning of the worksite?	4,5	4,0	4,3
How pleased are you with the delivery of the temporary construction time electricity board?	4,0	4,1	4,1
How pleased are you with the meter installation?	4,5	5,0	4,8
Total Average New Connections:	**4,5**	**4,1**	**4,3**
Fault Repairing CSI:			
How well did the promised repairing schedules hold?	4,5	5,0	4,8
How pleased are you with the fault repairers' service attitude?	5,0	5,0	5,0
How pleased are you with the promptness of the fault repairing?	4,7	4,0	4,3
Total Average Fault Repairing:	**4,7**	**4,7**	**4,7**
Total CSI:	**4,6**	**4,4**	**4,5**
Total CSI in Percentages:	**89,7**	**84,8**	**87,3**

The purpose of this meter is to supervise and develop the customers' satisfaction with contractors' actions. A successful customer contact is a combination of many factors, especially in the networked business. The VNDF's direct intercourses with the end customers have decreased so this meter also forces the contractors to focus on the matter and puts its on a higher importance. The meter brings the vision element to be number one for to the customer to more practical form and closer to the installers of the contractor. It also reveals quite transparently which things at least have an effect on the customers' satisfaction. So using this report and biting into it, contractors' can improve their performances in the meter bringing mutual benefits to VNDF and to themselves. VNDF's intention is to further develop the surveys and the CSI. In addition to new connection CSI and to fault repair CSI, more categories will be added. This becomes more and more important when the VNDF's direct intercourses with the end customer decreases.

7.4. Reports

As mentioned in the earlier chapters, the annual contractors get an individual monthly quality report about their performances in the five hard statistic meters. The report presents the performances of the previous month. The report reveals all the individual information about the performances of the concerning contractor but also information about the average and the best performances of the contractors. Also as discussed before, the annual contractors' performance in this quality report has an effect on their tenders; the quality is converted to money. Poor previous performance lifts the contractors' prices with two percents and good performance lowers their prices with two percents. New contractors that are participating to tendering start from zero percentage. So when VNDF compares contractors' tenders of some projects, the well-performing contractors can have up to two percentage higher prices and still be on the same line with others.

To enable this noticing of the quality when comparing the contractors' tenders the quality report defines total quality index for every contractor. Appendix 3 presents the part of annual contractor A's quality report where its total quality index defined. The figure 3 in appendix 3 is a part of the summary page of the report. It shows the annual contractor A's last month's performances and the scorecard's target levels of the five indexes. It also shows the name of the best contractor, its performance and the average performance of all the annual contractors. The total quality index is a weighted average from the five indexes calculated with the weight factors. This total quality index is noticed when comparing the contractors' tenders.

The thought behind revealing the name of the best performing contractor is that it concretizes to other contractors the fact that it is possible to achieve the top performance and they can compare their actions to the best ones. Even the annual contractors compete against each others in the tendering processes they can still have good relationships and interaction. So the report reveals from whom one can ask hints to improve their own performances. In addition to these individual contractor reports VNDF has its own internal report that includes the detailed individual contractor information but also summarizes the performances of all the annual contractors. So in other words that report shows the performance of the whole partnership network formed by annual contractors.

While the hard meters are reported in the quality reports the implementation of the developing project meters is followed with scorecard reporting. In the scorecard reporting the projects' statuses and also the hard meters' performance levels are marked to the actual scorecard of the concerning contractor. The statuses of the projects are updated when progress of the project is observed and the performance levels of the hard meter are updated always when a new quality report is finished.

An example of the annual contractor A's scorecard and its reporting use can be seen in figure 7.5. The type of the scorecard is the value driving scorecard so the meters are divided into energizers, enablers, value drivers and outcomes. The BON-column of

the figure 7.5 is the possible bonus of the meter. Here it is empty because the year's 2009 scorecard does not have the possibility to bonus. The STA-column illustrates the meter's status whit traffic lights. Green means that the meter is on its target level, yellow is almost at the target level and red illustrates that the meter is behind the target level. The STA-column can also present arrows that illustrate the development of the performance since the last reporting. The target levels and the current statuses are also marked more accurately in their own columns. The reasons for aberration -column states estimates why the meter is behind the target level and the actions-column defines actions that contractor does to achieve the target levels. These will be discussed more accurately in the next chapter.

VATTENFALL **PARTNERS' SCORECARD 2009** Annual Contractor "A"

METER	BON	STA	TARGET	CURRENT STATUS	REASONS FOR ABERRATION	ACTIONS
ENERGIZERS						
Accidents and close calls			Project ready, Q4 2009	Started on schedule		
Development ideas and feedbacks			Project ready, Q4 2009	Started on schedule		
ENABLERS						
Environmental management system			Project ready, Q4 2009	Started on schedule		
Vattenfall partnership			Project ready, Q4 2009	Slightly delayed	The project implementation plan is not delivered to VNDF.	The project meter's implementation plan and schedule will be delivered as soon as possible.
VALUE DRIVERS						
Acceptance inspections			95 %	87 %	Many quality remarks from the environment category.	The performance will be improved and the matter will be reminded to work supervisors and installers.
Fault repair costs			100 %	12,5 %	New meter. Reasons will be determined.	The factors that influence on the performance will be determined and the performance improved.
OUTCOMES						
Customer satisfaction			90 %	87,3 %	The weakest grades from the new connection CSI.	The performance will be improved and the matter will be reminded to work supervisors and installers.
Delivery date index			95 %	95 %		
Interruption time			100 %	37,5 %	New meter. Reasons will be determined.	Groups' reaction time will be improved.Other factors will be determined and the performance improved

Figure 7.5. *Partners' scorecard.*

At this moment, the contractors' scorecards, like in figure 7.5 are processed in Microsoft Excel environment. The contractors have updating responsibility for their own scorecards after the first update. The statuses of the projects are updated when progress of the project is observed and the performance levels of the hard meters are updated always when a new quality report is sent from VNDF. VNDF's own scorecards

are processed in web application called Kompassen. During the year 2009, the contractors' scorecards will be transferred to this same environment and they get individual usernames. At least at first the updating responsibility is at VNDF and the contractors can always login and see their up-to-date scorecard. In the Kompassen the contractors' scorecards are visible to the team and process managers of VNDF, too. They can follow the contractors' performances and see the mutually agreed actions to improve the performances. This increases the needed visibility of the management.

7.5. Navigation

The measuring system is said to be the most important management tool when working with partnership networks. The scorecard and its reporting should be a tool for the partnership network management, not just a number and data archive. In VNDF, the most clearly this realizes in so called navigation meetings. The navigation is a meeting between VNDF and an annual contractor. The purpose of the meeting is to navigate through the contractor's scorecard and the mutual partnership. The navigation is a checkpoint for the performances of the contractor and a good point to determinate the wanted future development course. In addition to this, the navigation works as a discussion opportunity for the both sides' managers focusing on the things that must and can be influenced to achieve significant development. It also enables strategic learning, develops and helps to coordinate mutual actions and processes, gives feedback about the measuring system helping to develop it and improves the mutual communication and interaction.

The meetings are always linked to the scorecard and the intention is to have at least three navigations every year with every annual contractor. In the first navigation meeting a new scorecard, its meters, target levels and the development objectives are presented to the contractor. The contractor's starting levels of the meters are defined and also the strategic goals behind the meters and the roles of the contractor in the VNDF's processes are discussed. After the first meeting, the contractor delivers a report to VNDF, which includes a clarification of the current state of the meters and a scheduled plan how and by what actions the performances in the hard meters will be improved. This report also includes a scheduled implementation plan for the developing project meters. In the same report the contractor names a responsible person from their own organization for every meter. This person is responsible that the defined actions to reach the meter's target levels are done.

The next two navigation meetings follow the development in the meters' performances and evaluate the influences of the done actions and if there is a need for new actions. The actions are always recorded and scheduled to enable the following. The following of the wanted development in the meters is also done in the monthly meetings between VNDF's project executors and contractor's work supervisors but they are discussed more in the operational level. In the navigation meetings the discussing is done more in the long-term strategic level. The participants of the navigation meetings

are VNDF's construction contracts and projects team and contractor's meters' responsible persons that normally are managers and work supervisors. The presence of contractor's managers enables commitment and defining of actions that really have an influence on the wanted development.

The scorecard defines the target levels to meters but it does not say how the contractors must reach them. The contractors have free hands to define the developing actions by themselves but they are discussed together with VNDF. The purpose of the scorecard is to innovatively develop the processes and encourage the contractors to find new solutions that benefit the partnership mutually. As it is said, the measuring system builds like guiding frames of the partnership that enables controllable and flexible management with strategy and principles. Before the scorecard, if the contractor's performance in quality report was weak in some area, the matter was not so efficiently noticed. Now, if the contractor's performance is behind the target level it must define and record improving actions, their schedule and name a responsible person. This concretizes the meters from paper to action and improves the commitment of the contractors and their employees. This self-evaluation and finding the reasons behind the performances is maybe the best method to achieve learning and commitment. This is the way how the classical KPI-meters, like delivery date index, become a strategic meter. The contractor finds the deeper reasons behind its performance level and does perhaps strategic changes to improve it.

In the navigation the roles of the measuring system becomes more concrete. It supports the decision-making, controls crucial parameters, evaluates operations and questions the strategy. All these can be done by observing the contractors' performance levels. Also the anticipatory strategic steering effect is achieved with the meters. For example the interruption time meter influences contractors' operations planning so that the goal is to minimize customers' interruption time in the upcoming outages.

Even tough the navigation is done individually with every contractor it can be used to manage the whole partnership network. When all the contractors determine the reasons behind their performances, VNDF gets a quite covering picture of all the factors that influence certain things. That information can be used to develop the actions as a whole. The measuring of many contractors also enables quite large and versatile comparison. VNDF can discover the best and worst practices and so develop the whole partnership network. The navigation is a one more regular interactive meeting with VNDF and its partners between the monthly operative meetings and yearly managerial meetings. Just the existence of a scorecard communicates the partnerships' objectives and values to the contractors but the navigation is the most concrete way how the scorecard is connected to the management of partnership network.

7.6. Experiments

Since 2005 when the monthly quality report has been sent to contractors, it has had a relatively big improving influence on to the quality. The contractors' performances have

varied a lot depending on their company culture but the quality report has decreased the differences. The contractors have also said that the quality reporting has revealed inefficiencies in their own actions and it has even led to organizational changes. The report's individual data per work supervisor in some indexes is actually a wish of the contractors. The report also shows the name of the best contractor in each index. The contractors see this as a matter of reputation but the best contractors have not received any contacts from other contractors concerning their way of performing. All in all, the contractors are pleased to the quality report and they want it to be sent in the future as well.

When writing this thesis the first navigation meeting has been held with every contractor. The acceptance of the scorecard has been good and the developing purpose of it has been seen well. Naturally, the demand in contracts that the contractor is committed to take scorecard into use has restricted their complaints. Some of the contractors have received previous versions of the monthly quality report already for many years, but through these navigation meetings the contractors have clearly more deeply understood the indexes, the whole monthly quality reporting and how it can be used as a tool to develop the actions.

As mentioned earlier, before the scorecard if the contractor's performance in quality report was weak in some area the matter was not so efficiently noticed. If the contractor had continuous problems a special meeting was organized to discuss about improving actions. With the scorecard and its navigation environment the sensibility to notice situations is better in VNDF but also in the contractor's own organization. The planning and execution of improving actions is started earlier so the situation where the contractor is on the edge with its performances should not occur.

After the first navigation meetings the contractors have quite well presented the scorecard to their own organizations and defined their planned actions to achieve the target levels and the wanted development. On the other hand, the defined actions have not been very exceptional and could have been done without the scorecard. This shows that the meters' objectives to highlight the matters to contractors and to give a boost to changes and improving actions have succeeded. Although some contractors have tracked the reasons and factors, influencing their performances, quite far and are planning really some strategic changes to improve their efficiency. All this foresees quite good influence of the scorecard.

The scorecard and its navigation environment were developed keeping the possible pitfalls and the ABCDE-model of a successful measuring system defined in the chapters 4.2 and 4.3 in mind. The meters were created with VNDF's process developers and managers without highlighting any specific process too much. Both developing project meters and hard meters were chosen so that the scorecard is in balance. The measuring and testing of the indexes was started before they were presented in the scorecard. That way the functionality of the reporting was ensured. Some of the meters and indexes are calculated from combined information but the reporting of them always

includes all the detailed information about every individual action. By doing this, the possible pitfall to loose critical information by combining information is avoided.

When comparing the current partners' scorecard to the measuring system theories the weakest point of the scorecard is its connection to the strategy. Now the meters are connected to VNDF's vision element, which gives a good basis to develop it further. But as discussed previously in this thesis, VNDF's intention is to publish a mutual strategy for the annual contractor partnership network and for the individual partnerships in cooperation and interaction with the annual contractors. By doing this the vision elements can be brought down to more practical form and closer to the annual contractors' doing. The strategy will clarify the objectives of the meters. Now the strategic objectives and contractors' roles in the processes were discussed in the navigation meeting. In order to achieve a truly common state of will and a true commitment there must be mutually discussed partnership strategy and meters that are derived from it.

One part of a successful measuring system is naturally its deployment. VNDF measures and reports the contractors' performance widely but the information must be used also in the VNDF's own decision-making and also when steering the internal processes. In addition to the individual contractor reports VNDF has its own internal report that includes the detailed individual contractor information but also summarizes the performances of all the annual contractors. This report should be used and discussed in VNDF's every process steering group. Now the report is too lightly handled. Contractors are a part of every process of VNDF so analyzing the reports and finding the development targets would serve every process. The process managers should define what kind of analyzes they need in addition to the raw measured data and the summary report. Then they have the best starting point to use the measuring system to support their decision-making and finding causal connections.

The year 2009 is a test year for the scorecard and there is no bonus attached. All the contractors have stated that the bonus will even more highlight the meaning of the scorecard's matters. They have said that the true development and the final commitment for it are achieved with the reward system. The contractors have understood well the fact that at first the scorecard, its reporting and the navigation environment must be tested and the contractors must get to know it. But if the reward system is not attached to the scorecard in the future years it will most likely kill the contractors' interest towards it and in the end the whole impact of it. The plus minus two percentage influence in the tendering is not enough alone if large developing project meters are included to the scorecard. When the reward system is attached to the scorecard the demands and the determination of the bonus must be clearly informed to the contractors so that it is clear to everyone and conflicting perceptions will not occur.

The scorecard and its environment has been working now little less than six months but good results are already seen as stated earlier. It brings more interaction between VNDF and its partners. It has already had an impact on contractors' actions but the future will show the true success. In order to achieve the wanted development the

measuring system and using it as a management tool must be developed. At the beginning the excitement towards the measuring system is great but the true results are achieved within the time. So, after the kick-off of the scorecard, the using and developing of it must not be negligent.

7.7. Development needs

The year 2009 is a test year for the scorecard. The intention is to get as much experience and feedback as possible so that it can be taken effectively in use with the reward system. As discussed in the previous chapter, VNDF has by now got good signs that the scorecard is starting to work as planned but there are some development needs that can already be pointed out. This chapter discusses the development needs that should be considered within the next two years.

The hard statistic meters in the scorecard 2009 are being tested and the same meters will most likely be in the year's 2010 scorecard, too. At the same time they will be developed according to the noticed needs. The fault repair meters and their rank based index will be changed to actual numerical target levels. VNDF has now collected this performance data over a year and some kind of an optimal stage between the costs and interruption time can be defined. The target levels cannot be too easy to achieve but an impossible target will kill the motivation to try to reach it.

The contractors have given feedback about the acceptance inspections meter. They feel that the inspections are subjective, depending on the VNDF's inspector and that way the contractors are not treated similarly in this meter. VNDF has recently educated its inspectors so that the acceptance inspections are done similarly and noticing the same things everywhere. The continual education of inspectors should be continued in the future and also the good and aligned quality of the inspections should be continuously followed in VNDF.

At the moment in the delivery date index meter all the works and the tasks are noticed equivalently. To even more highlight the importance of finishing important customer works on the schedule, some kind of weighting should be considered. For example, if a customer's new connection is delayed the contractor must pay delay fines and also the possible standard compensation that the VNDF has to pay to the customer. Still, the delivery date index for new connections is sometimes under the VNDF's target levels, so highlighting this matter with weight factor when calculating the contractors' delivery date index could improve the situation.

VNDF's processes have also proposed new hard meters to the contractors' next years' scorecards. One is a meter to measure contractors' costs per a new connection per connection zone. The new connections and their prizing to customers are divided to zones depending on their distance from the nearest transformer. The contractors are planning and constructing the new connections so the meter would measure their efficiency and stimulate to improve it. Also ideas of meters to measure the contractors' response times to fault repair orders, work caused interruptions and the costs of energy

not supplied (CENS) have been presented. If these meters are seen important and they could have a steering effect on the contractors' action the test meters should be defined as soon as possible and the measuring started. This way, the meters can be tested in the scorecard of the next year without having an effect on the contractors' possible bonus.

The developing project meters will naturally change in every year's scorecard. The defining of these projects should also be started as soon as possible. The contractors' ideas and wishes and the noticed needs of VNDF should be the base for these meters. From the very beginning, the project meters should be defined as much as possible together with contractors and as concrete as possible. Another thing that must be remembered when thinking of new meters is that no matter how easy the meter is to report it must not never have an impact to the decision will the meter be included to the scorecard or not. Even if the meter's reporting is undeveloped, the right meter to measure a certain action is much more effective and steering than a meter that is almost right but easier to report in a convincing way. But the meters that have an influence on the possible bonus or evaluation of the contractor should be defined so that they purely measure the contractors' actions. If VNDF's own doing and performing in the process varies it should not have an effect on to the contractors performance measuring.

As mentioned in the previous chapter, the biggest development need for the scorecard is its creating on the basis of mutually discussed partnership strategy. In the end the measuring system is a tool to manage, to steer and develop peoples' actions and to measure the results of it. The measuring system should not be seen as a controlling system. The measuring system is a tool to steer the self-organization, not just a tool to observe the performances. All the theories and written experiments support the fact that this kind of a situation is achieved only by taking the partners along when designing the scorecard. Only then truly the real understanding of the objectives, real steering effect and final commitment is achieved. This understanding of the scorecard and its role must be ensured in every employee level otherwise its influence will diminish when going to lower organizational levels. When the scorecard is created mutually with the contractor it eases the contractor's introduction of the scorecard to its own personnel. If the introduction is not properly done the scorecard becomes just "a new caprice of the managers" that no one cannot and do not want to understand.

As discussed in the chapter six VNDF is creating a simple tool, which will be used to help to determine a simple annual strategy for each team in VNDF. That strategy will be a base for creating the scorecard of each team. This tool should definitely be taken in to use with annual contractors, too. With the help of this tool each annual contractor would create a simple partnership strategy with VNDF and the scorecard's meters will be mutually discussed and linked to that strategy. That would surely increase the impact of the scorecard and develop the mutual partnership. This leads to a situation where the scorecards are different if the partnerships' strategies are as well.

The year 2009 scorecard is similar with every contractor in order to test and get feedback about it but the VNDF's intention has been from the start that the scorecard

will be customized to every partnership emphasizing the areas that mostly need to be developed. This customization can be done with steps. Firstly, defining the individual target levels and individual weighting on the meters bonuses so that the contractor's focus is on the things that mostly need to be developed. Secondly, the scorecards could be different to operational, tactical and strategic partners. The last step of the customization is that all the contractors have different scorecards. The customization also brings other advantages in addition to different focuses. For example, then the scorecard can be used as a comparing tool by defining two different development meters to two different partners in order to improve a certain area. Then VNDF sees which one works better, so that meter is the one to use with the rest of the partners.

For many years VNDF has done opinion surveys to its own personnel concerning the internal use of the scorecard. The surveys have inquired teams' experiments about their own scorecards, for example, how well it brings the strategy to action, if the meters are successfully defined and how well the scorecard guides the everyday actions and clarifies the objectives of each team's work. These same kinds of surveys could straightly be, and definitely should be, used to find out the contractors' opinions about the scorecard. The results will reveal the most important development areas. The developing of the scorecard must not be forgotten. There are multiple examples of failed measuring systems because the management interest in it has diminished after the implementation. One of the reasons for that is the big amount of needed work at the start before the results are visible.

The scorecard must be continuously evaluated. Do the meters measure the right things and do they steer the actions towards the wanted direction? Is the strategy successfully communicated with the meters? Does the scorecard reward from the right actions? Are the measuring results right? Can the results be manipulated and is someone manipulating them? Are the scorecard and its benefits exploited? How can we further develop the scorecard? For example, all these are questions that need to be gone through. For this purpose, there is a need for a scorecard's evaluating and development meeting with VNDF's process developers, managers and people that are in everyday interaction with contractors. One contractors' representative could be present also. The meeting would go through these questions and it should be held at the same phase with the navigation meetings. As one can see, in order to truly succeed in creating a management tool for the partnership network VNDF must not forget to ensure the needed resources to develop, operate and take the advantages of the scorecard.

7.8. Future prospects

A measuring system is a must when talking about the management of partnership networks. VNDF's partnership network is developing and the scorecard or some other kind of measuring system will be, for sure, used as a management tool in the future, too. This chapter discusses the scorecard's future prospects for the coming contract periods with annual contractors.

In the following contract periods the scorecard and its meters can be included to the contracts. When signing the contracts the contractors commit themselves to a certain performance level. If the target levels of the contract's meters are not achieved it can be a reason to rescind the contract or the contractor has to pay fines and compensation. So in addition to the possible bonus the contracts can include sanctions according to the contractor's performance in the meters of the scorecard. When thinking even further it could also be that the contractor has to show evidence about its own performances. VNDF buys services from the contractors and certain performance level is expected. So it could as well be that the VNDF defines the meters but the contractors have to report their own performances in those meters to VNDF.

The VNDF is pre-examining about expanding the contractors' responsibilities for the electricity network in their contracting area. The business branch talks about future contract form called total network responsibility. In this contract form the contractor is responsible for its whole contracting areas' electricity network, its constructing, maintaining, fault repairing etc. This kind of operating demands a measuring system. A rough example can be that VNDF defines that the contracting area must not have more than x pieces of short outages within a time of y. The contractor has responsibility for that and they can define the needed maintenance, tree clearing and construction actions by themselves. If the amount is less than x the contractor gets a bonus and if it is more the contractor has to pay fines. Naturally, there are many questions that need to be answered and solved before this kind of total network responsibility can realize.

Now there are nine scorecards, each for every annual contractor. The meters indexes are averages from all of the concerning contractors' contracting areas. The reports already include the information per contracting area so most likely in the near future there will be 25 scorecards, each for every contracting area. That way the contractor's weak performance in some area cannot be compensated with good performances in other areas.

Developing the scorecard and the whole scorecard navigation environment goes hand in hand with the developing of its utilization in management. The challenge is to create methods and tools to analyze the contractors' reports and to systematically define and follow-up the contractors' improving actions. The scorecard and its developing is useless if the management of the partnership network does not develop and take the full advantage of it.

The scorecard as a management tool is at VNDF to stay, at least in some form. Within the next few years its role will grow and a hint of that development is received from the fact that right now VNDF is building and defining a scorecard for its logistic partner.

8. CONCLUSION

The principal objective of this thesis was to develop the VNDF's management of its contractor partners and the partnership network that they form. This principal objective was divided into four parts. The first objective was to examine theories about partnership networks, management of partnership networks and about measuring systems as a management tool. The theories of partnership networks discussed the factors that motivate organizations towards networks, the different typologies of networks, the different levels of partnerships within networks and the risks and benefits of networks. The partnership network management theories pointed out that the management must always have three levels, which are management of individual partnerships, management of partnerships as a network and management of network surroundings. The theories about the measuring systems made clear that some of a kind measuring system is practically an obligatory tool for partnership network management.

The second objective was to sketch the contractor partnership network of VNDF, specify its typology and define what different levels of partnerships denote between VNDF and its contactors. The partnership network of VNDF is clearly unique among electricity distribution business branch and VNDF can be seen as a pioneer company when observing how VNDF has organized its business with partners. This thesis concluded that the best describing typology for the partnership network of VNDF is the strategic network. The strategic network of VNDF combines tight competitive settlement among contractors, but at the same time tight and long-term cooperation with the contractors. The theories defined three partnership levels that are typical to the strategic network typology, these were operational, tactical and strategic. This thesis recognized operational and tactical partnerships between VNDF and its contractors.

The third objective of this thesis was to find and point out some development needs in the partnership network management of VNDF according to the theories, VNDF's own needs and the contractors' feedback and experiments. The objective of VNDF is to develop the partnerships and processes together with the partners. The development can be achieved with good and intentional management but it demands that the management itself must develop at a same phase or a little ahead with the partnerships. The current state of the management of the partnership network in VNDF is good and it gave an excellent base to start to develop it further. As the biggest development needs this thesis pointed out the clarifying of the internal partnership network strategy, defining the individual partnership strategies with the contractors and increasing social interaction with the partners. In addition, the thesis pointed out the needs to increase the transparency and the visibility of the management.

The fourth and the most practical objective of this thesis was to define and create a scorecard as a management tool for the annual contractors of VNDF. The created scorecard combines all the fundamental aspects of the partnership network management. It is, when intentionally used and continuously developed, a partial solution to the all developed needs specified earlier. The scorecard crystallizes the strategy and the objectives of the partnership, measures the success of the strategy and improves interaction when mutually evaluated. The scorecard builds transparency to the management when the contractors know what is expected and when the performances are systematically analyzed. It also improves the visibility of the management. With the help of the scorecard the performances of the partnership network and the done management actions are easy to communicate to VNDF's own organization.

This thesis indicated that when the pointed development needs are noticed, the management of partnership networks in VNDF is at a very good level, though one must remember that it should be continuously developed. Then, the management contains the key factors to develop the processes, actions and partnerships to wanted direction. The biggest matters that VNDF needs to solve as soon as possible are the clarifying of the internal partnership network strategy and deciding about the scorecard's bonus. The systematic defining and clarifying of the internal partnership strategy is challenging but when that is carried out, getting that all the way to the individual partnership level will most likely be quite easy. The scorecard is a one tool to take that strategy to the individual partnership level but in order it to have a true impact it needs an incentive. Linking the scorecard to a bonus after the test year is necessary. Without the bonus, the work already done will be wasted and the meaning of the scorecard will diminish in the contractors' eyes.

The future challenges of VNDF in the partnership management will accede to creating more systematic actions to the everyday management but on the other hand customizing the management for every partnership. The development in the partnership network management and the created solutions must be remembered to inform and familiarize to the contractors but also to the VNDF's own organization so that all the members that are cooperating knows where the partnership stands.

This thesis has increased the conversation about the topic in VNDF. To enable the needed constant development of the management and the partnership, VNDF must remember to ensure the needed resources. The true development demands mutual interaction with the contractors and understanding of the organizational and personal situations of the partners. This understanding requires interaction, resources and, for the most, time that the "quarter-business" does not generally offer; one must just take it.

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APPENDIX 1: CONTRACTING AREAS

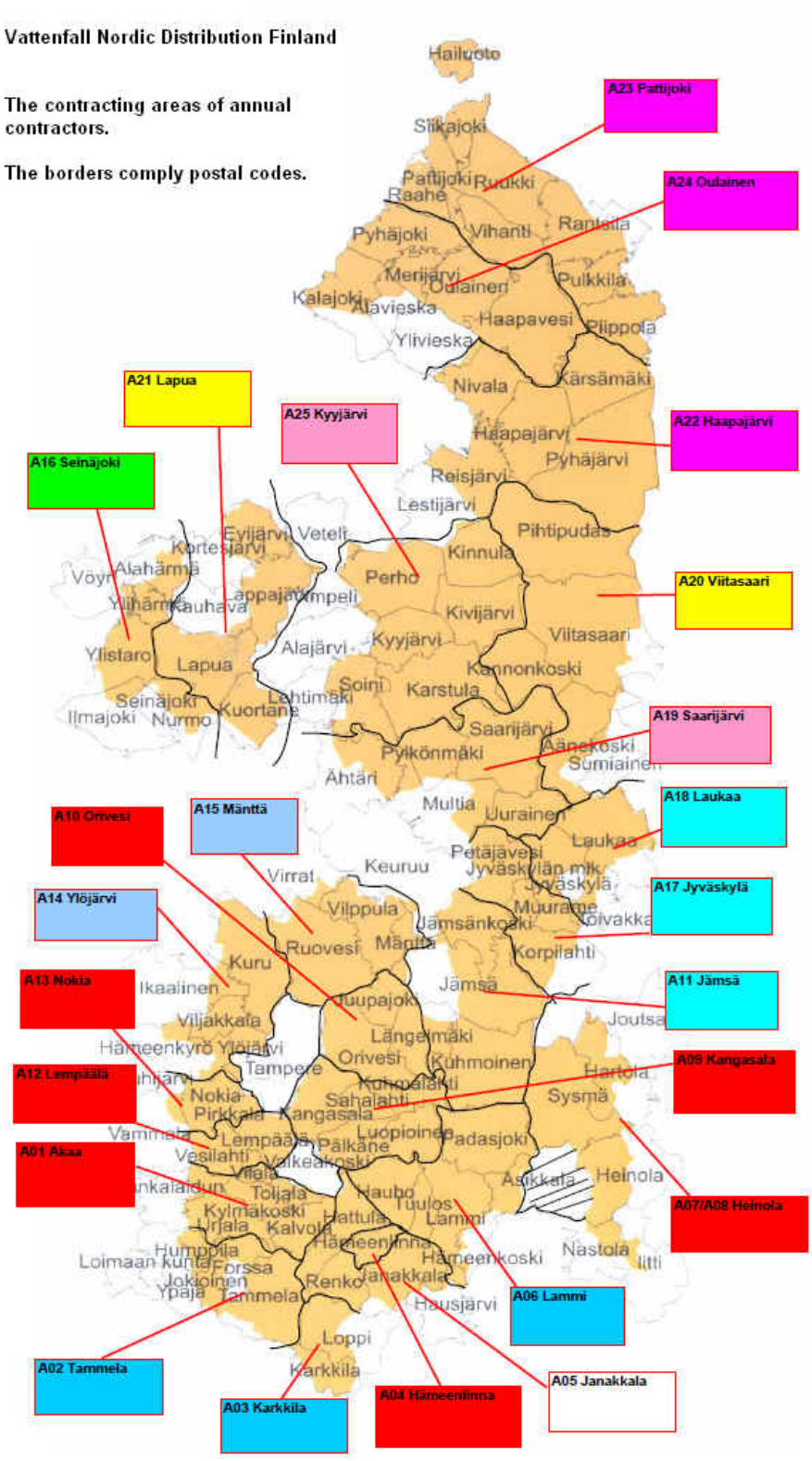

Figure 1. *Contracting areas of annual contractors.*

APPENDIX 2: PARTNERSHIP NETWORK ENVIRONMENT OF VNDF

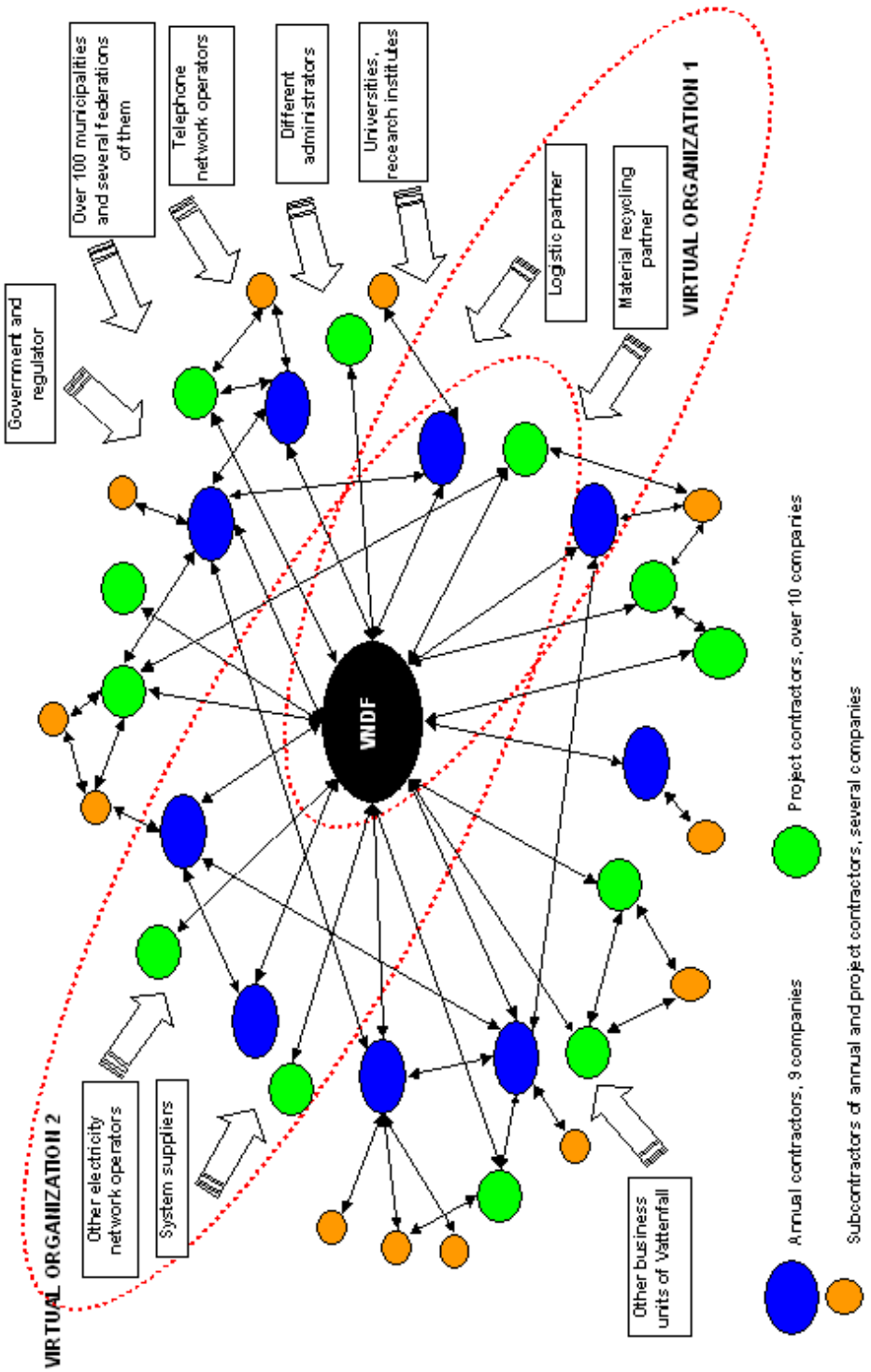

Figure 2. *Partnership network environment of VNDF.*

VATTENFALL

Quality Report, Total Quality Index

Weight Factor	40	30	10	10	10	100
Contractor	**1. Delivery Date Index**	**2. Quality of Work Index**	**3. Customer Satisfaction Index**	**4. Interruption Time Index**	**5. Fault Repair Costs Index**	**6. Total Quality Index**
Annual Contractor "A"	**95 %**	**87 %**	**87,3 %**	**37,5 %**	**12,5 %**	**78 %**
Contractors' Average %	79 %	85 %	83 %			75 %
The Best Contractor's %	95 %	90 %	97 %	100 %	100 %	88 %
The Best Contractor	Annual Contractor "A"	Annual Contractor "C"	Annual Contractor "B"	Annual Contractor "B"	Annual Contractor "B"	Annual Contractor "B"
Scorecard's Target Levels						
At the target level	≥ 95%	≥ 95%	≥ 90%	100 %	100 %	
Almost at the target level	92,5 % - 94,5 %	92,5 % - 94,5 %	82 % - 89,9 %	62,5 % - 87,5 %	62,5 % - 87,5 %	
Behind the target level	< 92,5 %	< 92,5 %	< 82 %	< 62,5 %	< 62,5 %	

X. Name of the index: used number (name of the scorecard's meter)

1. Delivery Date Index: rolling 12-month index (Delivery Date Index)
2. Quality of Work Index: rolling 12-month index (Acceptance Inspections)
3. Customer Satisfaction Index: cumulative since Jan 2009 (Customer Satisfaction)
4. Interruption Time Index: rolling 12-month index (Interruption Time)
5. Fault Repair Costs Index: rolling 12-month index (Fault Repair Costs)
6. Total Quality Index: weighted average from indexes 1-5

Figure 3. *An example of annual contractor A's total quality index report*